UNIVERSITÀ DEGLI STUDI DI NAPOLI
FEDERICO II

DOTTORATO DI RICERCA IN MANAGEMENT

XXX CICLO

TRADITION AND INNOVATION IN SMALL WINE FIRMS.
THE CASE OF CAMPANIA REGION

TESI DI DOTTORATO
DI
FABIANA SEPE

COORDINATORE:
CH.MA PROF.SSA CRISTINA MELE

TUTOR:
CH.MA PROF. SSA VALENTINA DELLA CORTE
CH.MO PROF. LUDOVICO SOLIMA

Tradition and innovation in small wine firms.

The case of Campania Region

TABLE OF CONTENT

INTRODUCTION

The recent dynamics of the wine industry have attracted much attention in the last years. An increasing scientific community spanning over economics, management, and innovation studies are paying much attention on the radical process of structural change that is affecting this specific sector.

Radical changes are increasingly affecting both demand and supply conditions. Specifically, on the supply side, a remarkable process of professionalization, research and knowledge intensification is taking place; new professionals and specialized knowledge workers (e.g., oenologists and agronomists) holding university qualifications are introducing new scientific methods and practices in the vineyard and in the cellar, thus radically changing the wine-making process. Indeed, in a couple of decades the wine industry experienced a drastic revolution, moving from a traditional low-tech industry to a knowledge intensive, (applied) science-based and innovative industry. On the demand side, changes in preferences from large quantity bulk wine to small quantity premium wines are re-orienting companies' market strategies, attaching a renewed importance to the different innovation dimensions (from product/process to marketing/organization up to external knowledge sources and systemic innovation). Furthermore, because of the development of a *gourmet culture*, firms strive for identifying market niches populated by highly sophisticated consumers demanding "hedonic and experience goods".

Starting from these premises, the current dissertation is articulated in four chapters.

The **first chapter** presents a general overview to the study that introduces the core issues of the current dissertation. These ones pave the way to the definition of some theoretical reflections, which constitute a precious point of departure for the statement of the research problem. Indeed, in order to identify the literature gaps, by contributing to add value to this study, the starting point is to understand and deeply investigate on the main traits characterizing the Food and Beverage (F&B) industry, generally and wine sector, specifically. Overall, the added value of this dissertation is to test the research issue within a specific industry context.

Starting from both the assessment of the literature gaps and the definition of the motivations supporting this study, the structure of the current dissertation is conceived according to the development of theoretical and empirical sections in order to address both the research scope and the research questions. As for the research design, this study follows a precise path that is composed of two main steps: 1) the first stage focuses on a review of the existing literature, paying particular attention to how small firms manage innovation, as well as a study of the specific innovation strategies implemented by small firms operating in wine industry; 2) the second phase relies on the empirical investigation aimed at carrying out the data analysis in order to answer the research questions and to achieve the research objective.

The **second chapter** proposes a theoretical analysis on the literature background based upon the innovation concept within the strategic management literature. Since the focus of the current dissertation is on the innovation implemented by small firms, the attention shifts on the variables contributing to define the small firms' innovative profile. In this regard, both external and internal variables are taken into

consideration. The first ones regard the opportunities a small firm can seize from the environment: on the contrary, the internal variables refer to specific endogenous features characterizing a small firm. Nonetheless, in order to provide this dissertation with a more solid theoretical background, the main focus is on a deep understanding of the innovation practices implemented within the wine industry. In this sense, due to the relevance of this sector and the relative growing interest of the researchers in carrying out studies in this field, an up-to-date literature review on the theme of wine innovation is realized. Than, consistent with the research scope, this work adopts a multi-layered approach aimed at investigating on different aspects characterizing small wine firms' innovative behaviours. Starting from the consideration that a more integrated and comprehensive outline of the argument under investigation may offer a broader set of information on the application of innovation to an acknowledged traditional industry, such as that of wine, the analysis proceeds with the description of the range of innovation dimensions (product/process, marketing/organizational – OECD, 2005) relevant for this specific industry. Moreover, the importance to understand the domains of innovation, both generally and in a given industry (in this case, wine industry), leads to deeply explore the theoretical foundations tied to the open innovation paradigm, concentrating the attention on both external sources of knowledge and systemic collaboration.

On the premise of this literature review, four variables are taken into account for the examination of the modes of innovation implemented by small wine firms: types of innovation (product/process), innovation activities (marketing/organization), external knowledge sources and systemic innovation.

In order to both have a more thorough picture of the world of wine and to understand

how and to which extent innovation can be implemented in this specific sector, **chapter three** deals with the 'state of the art' of the globalization process affecting the wine industry, by particularly focusing on Italy, which is the leading country in terms of wine production. Than, a general overview of the wine industry guarantees a better and more deep understanding of the different aspects characterizing this specific sector, shading light on the importance to introduce innovative patterns, remaining, at same time anchored to the traditional components and first of all to the *terroir* concept. In this perspective, the concept of *terroir* and wine as both cultural and luxury product is investigated, paying also particular attention to the development of the 'wine tourism phenomenon', which plays a key role with reference to both marketing activities and systemic collaboration. Hence, the multifaceted nature of wine as product and its tight linkages to other sectors (from cultural heritage to the fashion and luxury industry up to wine tourism) is dealt with.

Specifically, in the light of its connection with other satellite industries and the more recent globalizing forces that are currently reshaping the wine industry (New World (NW) countries are introducing always more innovative applications to climb over the Old World (OW) producers in order to reach the top positions in the wine global ranking), the OW countries, and above all Italian regions, to not loose their long-lasting primacy, are forced to implement innovation upgrades. Although these regions can count on a strong *terroir* orientation, the introduction of innovation patterns becomes the path to follow in order to retain their leading position. In this sense, mixing tradition and innovation seems to be the winning formula for old wine producers, and above all for Campania Region, in Southern Italy. The interest of undertaking this study in Campania Region is twofold: firstly, top quality wines are a

'flag product' of Campania Region and, secondly, it is a region with a wine tradition of ancient origins (it is one of he first and most important centres of settlement, cultivation and study of wine in the world) (Rossi et al., 2012).

Definitively, by taking into account the theoretical framework on innovation and the different facets characterizing the world of wine, **chapter four** deals with the empirical analysis that, in line with the research questions and the research scope, aims to verify if small wine firms implement innovation at different levels and, if yes, to test their inclination to adopt and implement some innovation practices rather than other ones. In order to answer to the second research question, the current dissertation carries out a hierarchical cluster analysis aimed at verifying how the sampled wine firms can be clustered according to their degree of implemented innovations. Finally, a Structural Equation Modelling (SEM) is implemented to test the theoretical model derived from the literature review. In this regard, the main purpose becomes to test if there is a positive relationship between the selected innovation dimensions (product/process, marketing/organizational, external knowledge and systemic innovation) and the wine firm's perception to be innovative. Finally, **conclusions** explain the findings and the results of this study, highlight the limits and give some hints on the future research directions.

Properly, as for the limitations and the relative future research horizons, among the principal research constraints, there is the lack of performance data contained in the data set. These ones could be useful for evaluating the effect of innovation predictors on performance. Secondly, this dissertation is based on a unique case study that is the Campania Region wine industry. Hence, caution should be taken in generalizing the findings, since not all regions and/or countries face similar wine growing and

development conditions. In this sense, it could be useful to repeat the research through a multiple case study analysis. Another important limit derives from the fact that this study is not a longitudinal one, since the survey seeks to capture information on the topic of innovation, asking to the wine firms to state whether some kinds of innovation were introduced during the previous three years (OECD-EUROSTAT, 1997).

In conclusion, conceptualizing a framework based on the different innovation dimensions with reference to the wine industry is helpful for supporting managerial decision-makers, since it can recommends tactical guidance and strategies to implement innovation at different firm's levels.

CHAPTER I

INTRODUCTION TO THE RESEARCH TOPIC

1.1 An overview to the study

Up to now, innovation studies focused on radical, technology-based innovations in large firms whereas innovation patterns in small firms[1] have not been largely deepened. However, over the past decades, an increased number of studies have explored the patterns of innovation in small firms (Hoffman et al. 1998; Romijn and Albaladejo, 2002; Verhees and Meulenberg., 2004; Freel, 2005; Gray, 2006; De Jong and Vermeulen, 2006; Terziovski, 2010; Rosenbusch et al., 2011). This tendency is related to the introduction of measures that are different from the traditional innovation indicators, such as R&D activities and patent applications (De Propris, 2000), which fail to capture the innovation capacity of small firms (Avermaete et al., 2004; Galizzi and Venturini, 2008).

Generally, when thinking about innovation, the association with high-tech sectors, such as electronics, software, pharmaceutical and telecommunication, seems to be expected. Nevertheless, though often depicted as low value-added and with little innovation content, some sectors, such as the Food and Beverage (F&B) one are

[1] The main factors determining whether an enterprise is a small firm are: staff headcount (less than 50) and either turnover or balance sheet total (less than or equal to €10 mln).

[2] Affect encompasses moods, which are often relatively long-lasting in nature but not focused on

characterized by enormous opportunities for innovative upgrading. Accordingly, within the F&B industry, the focus on wine sector seems to be of great interest, since small wine firms are facing several changes that affect the way in which the business is run. Indeed, in this specific sector, there are some factors that have to be taken into consideration: international competition is always more dominated by cutthroat rules, the boundaries among sectors are becoming blurred, leading to a kind of "industry convergence", and risk perception is growing.

Firstly, international competition is becoming more and more fierce because of the emergence of the so-called "New World" wine producers. These ones are defined as those outside of Europe. Five of the most established New World producers are United States, Argentina, South Africa, Australia, and Chile. This new international access is reshaping how wines are produced and consumed.

The boundaries among sectors are becoming blurred because of the fact that globalisation leads to forms of agglomeration and homogenisation (Murray, 2005). Accordingly, firms are more vertically integrated and large corporations own different parts of the commodity chains, from production to retailing (Gwynne, 2008). Furthermore, the increasing globalization process obliges wine firms to understand different consuming behaviours that make the market more and more characterized by uncertainty. There is a consistent literature related to the buying process and consumption patterns of wine consumers, showing how these ones are completely different according to the local and/or national culture (Cohen et al., 2009; Balestrini et al., 2006). In these terms, the cross-cultural comparison is not a negligible aspect. Moreover, it is important to underline that as individual wealth has grown on the wake of an expanding green global economy (Banks and Overton,

2010; Marshall and Harry, 2005; Leenders and Chandra, 2013), consumer preferences are more addressed to more differentiated and higher-status products. Wine producers demonstrate a great ability to resist the trend to agglomeration and homogenisation by protecting their intellectual property in the form of product and place names or methods of production. What is matter is the quality of the product and the concept of *terroir*. According to Barham (2003), the concept of *terroir* focuses discussion on how old is made new and to what extent territory history contributes to this process. The historical *terroir* notion viewed wine production as "a complex dance with nature with the goal of interpreting or translating the local ecology, displaying its qualities to best advantages. A great deal of knowledge about the local terrain is needed for success as well as respect for natural conditions that can be expressed through the wine" (Barham, 2003: 131).

On the basis of this definition, winemakers can be considered real "experts" because of their strong knowledge about the climate changes, the grape variety, the soil and the environment where the wine derived its origin.

Both the concept of product quality and *terroir* are strictly linked to that of risk perception, focusing the attention on the concept of the "going local" trend. It started in the last decade when consumers began to be more aware of the environment, and local economies (Stanton et al., 2012; Zepeda and Leviten-Reid, 2004).

Consistent with this concept, in the early 21st century, studies on the extent and nature of interaction between business activities and the environment have been receiving great attention (Baker and Sinkula, 2005; Buysse and Verbeke, 2003; Leenders and Chandra, 2013). This is particularly true in the wine industry, where grape growing and wine making impact other high value-added agricultural sectors

and the ecosystem of a region of origin with specific salience for selection of supply chains (Atkin and Newton, 2012).

Due to all these motivations, there seems that a kind of "chain reversal" is arising (Folkerts and Koehorst, 1998; Traill and Meulenberg, 2002; Omta and Folstar, 2005; Fortuin and Omta, 2009; Bigliardi and Galati, 2013). Specifically, consumers, by expressing their needs and preferences, are increasingly involved in the innovation process. As a result, the external scenario, characterized by its turbulent nature, dynamism and complexity, forces firms to provide a strategic answer to innovation in order to retain and increase their competitiveness.

Several empirical studies underline that R&D intensity is a poor indicator to capture innovativeness within specific industries, such as that of wine, due to some specific features of its innovation patterns (Capitanio et al., 2009, Avermaete et al., 2004; Galizzi and Venturini, 2008). Indeed, on the supply side, wine firms are "technology-pushed"; they are mainly process-innovation oriented and use new technologies developed by upstream (high-tech) industries to create new products. Innovation thus mainly occurs through equipment and capital goods investments. In natural resource-based sectors, such as that of wine, innovation mainly consists of process innovation, as few innovative efforts are required by the product characteristics *per se*, due to the specific sectorial patterns of acquisition of innovative knowledge. According to Grunert et al. (1997), every successful firm counts on a "dominant orientation" that shapes the firm's behavior. This orientation can be of three types:

- product orientation, when firms' culture is dominated by product quality;
- process orientation, in which firms are guided by principles of flexibility and efficiency;

- market orientation, that is to produce what the market desires.

The firm's dominant orientation relies on a set of core competencies (product, process, or market), but a successful firm will also have to meet basic standards with respect to the other two criteria. These supplementary competencies may be outsourced, unlike the core competence (Traill and Meulenberg, 2002).

As a consequence of the innovations implemented by other sectors (e.g. biotech, packaging) located upstream in the supply chain, also the firms operating in the wine industry have to develop new products and processes in order to profit from the superior capabilities of their suppliers (Tatikonda and Stock, 2003; Schiele, 2006; Johnsen, 2009; Di Stefano et al., 2012). Hence, besides the set of internal resources, wine firms may exploit and internalize knowledge coming from outside in order to create new solutions and innovation, as well. Some scholars declare that a firm's ability to combine sources of internal and external knowledge, which traditionally belong to other industries, is the path to follow to successfully compete in the market (Kogut and Zander, 1992; Bierly and Chakrabarti, 1999). This explains the reason why in both academia and industry, the theme of "cross-industry" innovation is increasingly growing of interest (Enkel and Gassmann, 2010; Brunswicker and Hutschek, 2010). In this optic, firms are induced to introduce external knowledge into their business, generating positive benefits for their own innovation activity. In particular, supplier-driven innovation in the wine sector can lead to knowledge spillovers that, in turn, can positively affect the implementation of innovative practices.

Another aspect to take into account is related to the fact that a high number of innovations in the wine industry are incremental rather than radical. The prevalence

of incremental innovations depends on the constraints from demand and conservative consumer behaviour. On the demand-side, wine firms benefit from the interaction with downstream partners, such as retailers and distributors, in order to make the introduction into the market of new products successful (Grunert et al., 1997).

In the light of these considerations, there seems to be clear that rather than innovating in isolation, wine firms have the necessity to use external sources of information and other inputs. The ability to obtain information and other inputs from the external context is a key determinant of innovation in small firms, such as those operating in wine industry (De Propris, 2000; Diederen, van Meijl, and Wolters, 2002; Freel, 2000, 2005; Romijn and Albaladejo, 2002; Tether, 2002). Anyway, due to their flexibility, wine firms can count on their internal capabilities in order to catch and even create new opportunities (Chirico and Salvato, 2008; Kontinen and Ojala, 2011). In this sense, another stream of research (Borch and Forsman, 2000; Le Bars et al., 1998; Romijn and Albaladejo, 2002) views innovation in these firms as associated with entrepreneurial features and the capabilities of the workforce. Hence, it becomes important to concentrate the attention on the entrepreneur's ability to generate novel, useful ideas or problem solutions (Amabile et al., 1996). This is what literature defines as entrepreneurial creativity (Amabile, 1997; Ward, 2004; Perry-Smith and Coff, 2011). Specifically, creative entrepreneurship refers to an overall process of creation, both in front of opportunities and threats coming from outside and with reference to firm's resources, their combinations and changes (Della Corte and Del Gaudio, 2017). Successful ideas are often a balance between novelty and familiarity: the generation of a new idea may be determined by the way in which both existing and external flows of knowledge are accessed (Ward, 2004).

Therefore, there seems to be evident that wine firms should implement innovative strategies combined with "secret" recipes related to both firm and territory tradition (*terroir*). In fact, in contrast with conventional thinking based on the assumption that knowledge from the past can cause path dependence, inflexibility and conservatism (Leonard-Barton, 1992), several scholars have started to recognize the potential advantages of searching in the past to develop innovative products (Messeni Petruzzelli and Savino, 2014; Nerkar, 2003). In these sense, what is matter is to understand how wine firms, characterized by long-lasting traditions, can implement innovation, both remaining anchored to the past and opening-up their internal boundaries by entering into relationships with a *plethora* of external actors.

The type of innovation required in this case, however, is very specific, since it is strictly linked with the territorial factors, identity and local cultures, that often represent also territorial tradition. Therefore, in this case, innovation looks like a revisited and innovative view of local traditions, which represent in any case the core of that specific production. This allows firms to interiorize and reinterpret both past and new knowledge in a novel and creative way.

If, up to now, this overview has introduced the core issues of the current dissertation, the following paragraphs are going to investigate on some theoretical points underpinning the research problem.

1.2 Statement of the problem and research originality

In order to identify the literature gaps, by contributing to add an original value to this research, the starting point is to investigate on the F&B industry, and specifically on

the wine sector. In light of this, as mentioned in the previous paragraph, most of the current literature on innovation in the F&B industry illustrates theoretical concepts with merely descriptive case studies, but the empirical studies have mainly focused on large firms or multinational corporations (Alfranca et al., 2005; Huiban & Bouhsina, 1998). Empirical evidence about innovation patterns in small F&B firms seems to be blurred.

Three motivations support the choice to analyse innovation dynamics in small F&B firms:

1) such firms are an important sector in the overall economy: the F&B industry is one of the largest businesses in the EU, in both terms of employment and production. Indeed, in 2015 its contribution to Europe's economy has been crucial: 4.25 million employees throughout the EU. The F&B industry also accounted for more than 285,000 SMEs that generated almost 50% of the F&B industry turnover and value added and provided 2/3 of the employment of the sector (Data & Trends of the European Food and Drink Industry 2016). Moreover, this industry has strong linkages with various other industries such as agriculture, chemicals, packaging, and last but not least tourism;
2) small F&B firms play a key role in achieving sustainable economic growth in local economies (McDonagh and Commins, 1999; Murdoch, 2000). They are particularly situated in rural areas where they have developed to process products from local agriculture (de Noronha and Nicolas, 2000). In addition, small F&B firms tend to rely heavily on local industries and local services;

3) small F&B firms produce certified local products of a different nature than those produced by large firms. These latter generally have a national or international market approach and consequently give more attention to products with a "mass appeal". In these terms, an important component of local/regional's highly valued cultural identity is invested in such small firms (Ilbery & Kneafsey, 1999).

What makes F&B firms different from other manufacturing companies is their high dependency on natural resources and the need for specific (often tacit and local) know-how in their production processes. F&B firms can be revitalized using cultural values and identity derived from the firm's long tradition and from the authenticity of the local food and beverage culture. F&B firms are strongly linked with the territory and its traditions and this reflects on competitive decision-making processes and corresponding practices (Vrontis et al., 2011; Rossi et al., 2012). Accordingly, making particular reference to the wine sector, the firms here operating are characterized by a strong relationship between the firm itself and the wine as a product, the latter representing a set of family values, symbols and traditions rooted in the territory (Gallucci and Nave, 2012).

Kaplinsky and Fitter (2004) in their studies have shown the process of *de-commodification* of primary commodities, which are increasingly transformed from standardised staples into high-quality, diversified goods, with high knowledge intensity, increasing value added content and high export price unit. According to these authors, among the most dynamic primary industries there is wine.

In the contemporary wine industry, a number of scientific and technological changes have allowed a shift from the production of table wines (e.g. wines that are not very

expensive and are used for ordinary meals) to the production of fine premium wines (e.g. wines that generally have more aging potential than every day quaffing wines) (Berverland, 2004; 2006; Anderson et al., 2003). Consequently, wine as a basic and undifferentiated commodity has become an increasingly sophisticated and differentiated luxury good. This is what literature defines as "wine revolution" (Crowley, 2000; Farinelli, 2013).

The wine industry is one of the most representative economic activities in many countries in terms of employment and companies' revenues (Bigliardi and Galati, 2013; Vrontis et al., 2016). In the previous years, the international wine industry has been characterized by a rapid growth of exports and by the emergence of new producing wine countries (New World countries - such as California, Australia, Chile, South Africa, Argentina, New Zeland) and their entry in the global wine market. Hence, wine producers, above all those operating in Old World countries (Italy, France, Spain, Portugal), are currently affected by increased competition, and this has obliged them to intensify their efforts to improve product quality and to enter higher value niches in international markets. So, the wine industry has been involved in a deep process of innovation.

Furthermore, the presence of small firms is common in the wine sector, due to the tradition of some long-standing small family firms (Contò and Lopez, 2008). A sort of "wine factor" is created, since the wine represents a set of family values, symbols, and traditions rooted in the area in which the firm is based (Georgiou and Vrontis, 2012 Gallucci and Nave, 2012).

Although innovation is a critical issue for small firms (Bresciani et al., 2013; Craig and Moores, 2006), the literature on how wine firms implement innovation strategy

is rather scarce and the relevance and significance of small firms to the wine sector requires further and more in-depth studies. An effective innovation system seems to be crucial for food companies but controversial too in the wine sector, where innovative strategies have to be combined with "exclusive" and "secret" recipes (Dries et al., 2014, 2013; Di Vita et al., 2013; Cusmano et al., 2011). In this context, firms have to become as aggregations of value "generatrix" activity (Bellia and Pilato, 2013) in order to catch growth opportunities in the wine sector. These latter are linked to the wine firms' ability to innovate and differentiate supplies (Borsellino et al., 2012). In these terms, the wine industry represents an interesting case for analysing the process of innovation combined with local and cultural tradition.

Up to now, the literature on the topic shows some underestimated points paving the way to the exploration of new research horizons.

First of all, most of works concentrate on innovation practices adopted in New World countries (Aylward and Turpin, 2003; Aylward, 2006, Anderson, 2011; Morrison and Rabellotti, 2017), overlooking the traditional wine regions characterised by a *terroir* orientation. These Old World countries, even if threatened by high competition, remain by far the largest producers, with Italy, France and Spain outstripping all other country producers by wide margins: these three countries together account for more than 40% of the world output (OIV, 2016). At this point, a question spontaneously arises: beyond the historical traditions (accumulated pool of informal and tacit knowledge) and the favourable conditions (soil, climatic and morphologic characteristics of the territory), what are the factors that determine the success of Old World wine producers?

Secondly, as innovation usually requires input from a range of external sources, a growing body of innovation research has shifted its focus from a single innovator to a cluster. The generality of these studies are mainly concerned with the analysis of the regional innovation systems and/or clusters, paying little attention to the role of innovation in a single wine firm and to the mechanisms (antecedents) that lead these firms to enter into an innovation network (Rebelo and Caldas, 2013; Aylward, 2004; Mytelka and Goerzen, 2004, McDermott, 2007; Hickton and Padmore, 2005; Larreina and Aguado, 2008). These works underline the major role of innovation networks in the emergence of New World countries in the international wine market. The huge growth of their wine production and export since the beginning of the 1990s relies on many factors but, among them, the most important one is the construction of clusters between firms, universities, research centers and government agencies. These clusters have connected entrepreneurs (farmers, firm managers) opened to technological and marketing innovation, with national universities and research centers capturing foreign knowledge from traditional wine countries. On the contrary, it is interesting to understand if and to what extent wine firms innovate and arrange external ties with other firms and research organizations without compromising their unique and highly specific assets linked to their long-standing tradition. In wine consumption, the cultural identity (both traditional and local) is linked to a wider desire for authentic experiences (Bonnekessen, 2010; Sims, 2009). Some scholars have proved that customers appreciate local products, if these products embody the tradition, heritage, culture, ethnic diversity, and identity of a particular place (Johnson and Bruwe, 2007; Beverland, 2006; Orth et al., 2005, Beebe et al., 2012). It has also emerged that each study on innovation in a wine firm

has to consider the role of the country of origin and its impact on the consumer's perception.

Beyond the above-mentioned literature gaps, there seems to be useful to underline also that an increasing number of studies have been focused on one innovation project, such as the launch of a new wine or the adoption of a new technology by cellars. These works investigate on conditions, forms and effects of elementary innovation in the wine industry (Masson et al., 2008; Touzard, 2010; Chiffoleau and Touzard, 2014). In order to bridge this gap, the current dissertation takes into consideration all innovation practices a wine firm can adopt: from product and process, to marketing and organizational innovation, besides the focus on the open innovation approach.

1.3 Purpose and research questions

Starting from the statement of the research problem, the purpose of this study is to fill up the literature gaps, by contributing to add value to the current research on the subject. Hence, the goal this research tries to pursue is to discover answers to questions through the application of scientific procedures. In fact, through the definition of the research objective it is possible to find out the truth which is hidden and which has not been discovered as yet (Kothari, 2004).

In line with this theoretical notion, this dissertation aims to bot analyse if and to what extent small wine firms, characterized by a high *terroir*-orientation, adopt and implement innovation and test the relationship between the different dimensions of innovation and the firms' perception to be innovative. Moreover, it intends to explore

the nature and sources of innovation in Campania Region that is one of Italy's most innovative winemaking regions (SRM Report, 2016). The last three decades have seen a dynamic resurgence in Campania and distinctive wines have popped up in many provinces. Accordingly, the limited existent research on the innovation patterns in the wine industry, and specifically in Campania Region, become the primary motivators for undertaking this study.

In order to answer to these literature gaps, the structure of the current dissertation is conceived according to the development of theoretical and empirical sections in order to address the following research questions:

RQ1: Do traditional and terroir-oriented wine firms adopt innovation?

RQ1a: If yes, how do wine firms implement the different dimensions of innovation?

RQ2: How can these firms be clustered in relation to their degree of implemented innovation?

RQ3: How do the selected innovation dimensions (product/process, marketing/organizational, external knowledge and systemic innovation) impact on the respondents' perception to be innovative?

In answering to these research questions, this study concentrates the attention on the modes of innovation implemented by small wine firms operating in Campania Region. The focus is not only on the product and process innovation (technological innovations), but further aspects of business innovation will be taken into account. These ones concern with marketing and organizational innovations that can be

implemented in wine industry. Moreover, a fundamental role is assumed by the investigation on the mechanisms that lead these firms to innovate through external/systemic sources of knowledge according to the open innovation paradigm.

1.4 Research design

In order to proceed with the analysis, the outlying of the research design process is needed. A research design represents a framework or blueprint for conducting the research project and details the procedures to obtain the information needed to structure or solve research problems.

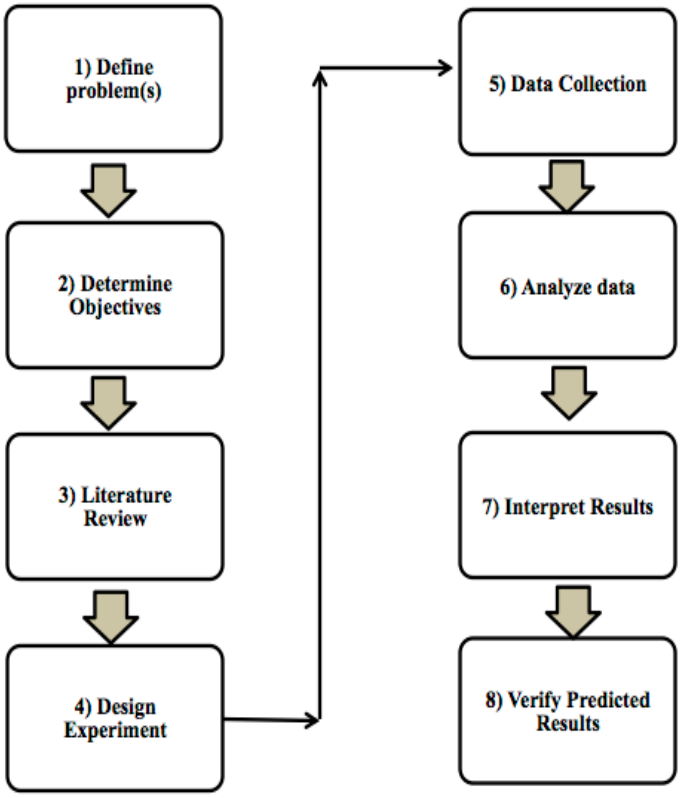
As suggested by Mackey and Gass (2015), the *definition of the research problem* is the first step that creates the foundations of the field of the research, since it helps to understand and build the path of the study in terms of theoretical background, empirical setting and methodology (see fig. 1.1).

The statement of the research problem allows to contribute to the existing stock of knowledge making for its advancement (Kothari, 2004).

Once that the problem is defined, this dissertation proceeds with the identification of the *objectives*, which become new research issues, extending experience or adding validity and effectiveness to what is already known through previous studies on the topics.

After have defined the problem and pinpointed the research objectives, a *literature review* on the theme allows a more conscious understanding of the state of the art and determines the transition from the theoretical to the empirical part.

Fig. 1.1 – The research design process



Source: own elaboration from Mackey and Gass, 2015

A review of previous relevant literature is an essential and pivotal issue of any academic project. An effective literature review shapes the basis for advancing knowledge, by facilitating theory development and matching the areas where a *plethora* of research exists. Than, before proceeding with the empirical testing, the literature review highlights the theoretical foundation of this research according to the research objectives. This literature review allows assuming a holistic vision on all the phenomena under investigation to after understand what are the existing gaps and, hence, to reach a clear range of ideas to test.

The *design experiment* constitutes an antecedent of the data collection phase. Accordingly, in order to enhance the theoretical analysis with an empirical research and drive it towards interesting results*, data are collected and analyzed*, to after *interpret* and *verify the predicted results*.

The empirical section consists in a case study analysis in order to test the above-mentioned research questions. Following Yin (1994), the case study seems to be useful to understand the phenomenon under investigation, by relying on different sources of evidence. Accordingly, starting from the case selection procedure proposed by Eisenhardt (1989), this dissertation focuses on the case study methodology for several theoretical motivations. Such reasons rely on the willingness to provide a clear picture of the main mechanisms related to the search and recombination of internal and external knowledge that lead a small firm to introduce and implement innovation. Thus, the choice to adopt a case study method derives from the need to deeply understand and investigate on the dynamics of innovation in small wine firms without adopting a purely descriptive approach. This research methodology allows to meticulously analyze for effectiveness in a real-life context the items identified in the literature review (Yin, 2009). Among the different motivations that support the adoption of a case study method, there is also the fact that most of the research on small firms is conducted through case studies (Chetty, 1996; Dana and Dana, 2005).

There are several categories of case study. Yin (1984) identifies three different categories, namely exploratory, descriptive an explanatory case studies.

As shown in the table 1.1, exploratory case studies rely on exploring any phenomenon in the data, which serves as point of interest to the researcher. For

instance, a researcher conducting an exploratory case study may ask questions, such as, in the case of this study, the above mentioned RQs.

Table 1.1 – Overview of a research design

	Uses	Types
Exploratory research	• Formulate problems precisely • Develop hypothesis or research questions • Establish priorities for research • Eliminate impractical ideas • Clarify concepts	• Literature search • Experience survey • Analysis of selected cases • Interviews • Ethnographies • Focus groups
Descriptive research	• Describe segment characteristics • Estimate proportion of people who behave in a certain way • Make specific predictions	• Longitudinal studies • Panels • Sample survey
Explanatory research	• Provide evidence regarding causal relationships • Rule out all other explanations	• Laboratory experiment • Field experiment

Source: own elaboration from Yin, 1984

These questions open up the door for further examination of the observed phenomenon.

Second, descriptive case studies set to describe the data, as they occur. McDonough and McDonough (1997) suggest that descriptive case studies may be in a narrative form.

Third, explanatory case studies examine the data closely both at a surface and deep level in order to explain the phenomena in the data. The explanatory cases are deployed for causal studies where pattern-matching can be used to investigate some phenomena in very complex and multivariate settings.

Regardless of the different categories case studies can be divided, what is important to underline is the fact that this research strategy combines different data collection methods, such as archives, interviews, questionnaires, and observations. The evidences may be both qualitative, quantitative or both.

Whilst quantitative research involves examination and measurement of an amount of data, their frequency and intensity, qualitative research seeks to understand how the social world is created and given meaning (Willmott and Bell, 2015).

This dissertation is based upon both quantitative and qualitative data, applying what the social science methodological literature defines as *mixed methods research* (Johnson et al., 2007). This method is strictly tied to that of *triangulation* that is the "the combination of methodologies in the study of the same phenomenon" (Denzin, 1978, p. 291). There are four types of triangulation: (a) data triangulation (i.e., use of a variety of sources in a study), (b) investigator triangulation (i.e., use of several different researchers), (c) theory triangulation (i.e., use of multiple perspectives and theories to interpret the results of a study), and (d) methodological triangulation (i.e., use of multiple methods to study a research problem).

More specifically, in this study an exploratory sequential mixed method is applied (Creswell, 2015): the research first begun with a qualitative research phase, exploring the views of a small sample of the entire population. The data are then analyzed and the information used to build in a second, quantitative phase. In

particular, the qualitative stage was used to both build a semi-structured questionnaire that best fitted the sample under investigation and to confirm the validity of the variables (identified in the literature review) needed to go into a follow-up quantitative study.

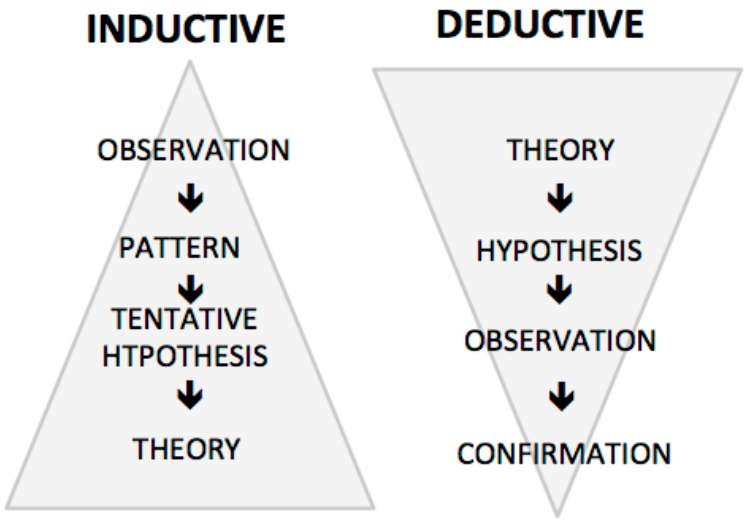
Furthermore, for the purpose of this research, a positivist approach is adopted. This one considers a precise research path that starts with the study of the literature and proceeds with the empirical support through data collection (Creswell, 2009, p. 11). According to these considerations, the current work confirms the accuracy of the positivist approach for the study of the issues of innovation trying to understand what are the patterns wine firms implement in order to innovate.

Consistent with the positivism paradigm, this study is based on a deductive research approach.

As emerged from the fig. 1.2, deductive research approach is associated with the positivism philosophy, whereas inductive research approach is associated with interpretivism (Crowther and Lancaster, 2009). Whilst inductive approach allows the researcher to provide subjective reasoning with the help of various real life examples (Benz and Newman, 2008), deductive approach allows the research to establish a hypothesis by using theory. In this last case, a number of data and information are collected by the researcher to confirm or reject the hypothesis and/or research questions to resolve issues (Gill and Johnson 2010).

The next chapter will deal with the theoretical background aimed at investigating on the innovation studies that have been approached from different perspectives in the history of management research. Of course, particular attention will be paid at the theme of innovation in the wine industry.

Fig. 1.2 – Deductive vs. inductive research approach



Source: own elaboration

CHAPTER II

THEORETICAL FRAMEWORK ON INNOVATION

2.1 Understanding innovation: a theoretical approach

The starting point of this chapter is to find the definitions of innovation within the strategic management literature. Innovation, as a concept, has been approached from different perspectives in the history of management research (Baregheh et al., 2009). Indeed, an unrestricted search of academic publications using the keyword *innovation* generates thousands of articles.

As stated by Damanpour and Schneider (2006, p. 216) "innovation is studied in many disciplines and has been defined from different perspectives". Because of the

high number and diversity of studies, there is no a clear and universal definition of innovation. To demonstrate the diversity of the definitions and to get to a holistic and widely accepted interpretation of innovation in the strategic management field, the current dissertation provides an integral framework that highlights the main antecedents and outcomes of innovation.

The first stage to build a theoretical framework based upon innovation concept is to collect as many definitions as possible of this concept. In this process, it is important to achieve representation over time and across disciplines. For this reason, in table 2.1 the most cited definitions of innovation are illustrated. The literature reveals that although innovation has been deeply and widely studied, there is no a generally accepted definition as well as a universally recognized system of innovation measurement.

The first definition of innovation was coined in 1939 by Schumpeter, who observed that "innovation combines components in a new way, or that it consists in carrying out new combinations" (1939, p. 88). So, he focused on the novelty aspect stressing that innovation is reflected in novel outputs: a new good or a new quality of a good; a new method of production; a new market; a new source of supply; or a new organizational structure, which can be summarized as "doing things differently".

Table 2.1 – Main definitions on innovation

Author (year)	Definition
Schumpeter (1939)	combines components in a new way, or that it consists in carrying out new combinations.
Thompson (1965)	Is the generation, acceptance and implementation of new ideas, processes, products or services.
Ansoff and Stewart (1967)	is determined by analyzing the speed with which new ideas or practices or products are adopted in the firm.

Freeman (1974)	is quantified by analyzing the research and development (R&D) expenditure of firms, greater R&D expenditure indicating greater innovation orientation.
Utterback and Abernathy (1975)	the system of process equipment, work force, task specification, material inputs, work and information flows, and so forth that are employed to produce a product or service.
Burgelman (1983)	resides in the autonomous strategic impetus of individuals at the operational levels.
Van de Ven (1986)	a new idea, which may be a recombination of old ideas, a scheme that challenges the present order, a formula, or a unique approach.
Håkansson (1987)	is a product of a network of actors.
Kanter (1988)	creation and exploitation of a new idea.
Acs and Audretsch (1988)	a process that begins with an invention, proceeds with the development of the invention, and results in the introduction of a new product, process or service to the marketplace.
Dosi (1988)	concerns the search for, and the discovery, experimentation, development, imitation, and adoption of new products, new production processes and new organizational set-ups.
OECD (1991)	an iterative process initiated by the perception of a new market and/or new service opportunity for a technology- based invention, which leads to development, production, and marketing tasks striving for the commercial success of the invention.
Lundvall (1992)	on-going processes of learning, searching and exploring, which result in new products, new techniques, new forms of organization and new markets.
Caraça et al. (2009)	the first commercialization of a new product, process or system corresponding to the introduction on the market of the conversion (into a good or service) of such innovation.
Smith, Barfield and Dufour (1996)	includes not only basic and applied research but also product development, manufacturing, marketing, distribution, servicing, and later product adaptation and upgrading.
Damanpour (1996)	includes creative and risk-taking behavior that foster incremental changes such as introducing new goods or services, new methods of production, establishing new markets, utilizing new supply sources, and creating new organizational forms.
De Propris (2000)	is the outcome of parallel processes of information sharing and of codified and un-codified knowledge spillover channelled through inter-firm linkages.
Johannessen, Olsen and Lumpkin (2001)	is specific to individual units of operation on the proposition that it incorporates ideas, practices, or objects that are perceived as being new by the unit adopting the ideas, practices, or objects.
Paniccia (2002)	derives from "contamination" and "hybridisation" with new actors: processes that generate new practices and rationalities that may enrich local patterns of learning.
Hargadon (2002)	Derives in part from the prior existence of its components.
Carayannis, Gonza´lez, and Wetter (2003)	is related to the new products and services that emerge from technology.
Bessant, Lamming, Noke and Phillips (2005)	represents the core renewal process in any organization. Unless it changes what it offers the world and the way in which it creates and delivers those offerings it risks its survival and growth

	prospects.
Moskowitz, Reisner, Itty, Katz, and Krieger (2006)	represents the recombination of components into new blends.
Du Plessis (2007)	the creation of new knowledge and ideas to facilitate new business outcomes, aimed at improving internal business processes and structures and to create market driven products and services. Innovation encompasses both radical and incremental innovation.
Wong, Tjosvold and Liu (2008)	the effective application of processes and products new to the organization and designed to benefit it and its stakeholders.
Crossan and Apaydin (2009)	production or adoption, assimilation, and exploitation of a value-added novelty in economic and social spheres; renewal and enlargement of products, services, and markets; development of new methods of production; and establishment of new management systems. It is both a process and an outcome.
Bareghegh et al., 2009	The multistage process whereby organisations transform ideas into new/improved products/ services or processes, in order to advance, compete and differentiate themselves successfully in their marketplace.

Source: own elaboration

From each of the definitions in the table emerges that in order to achieve innovation an action or process of some type that introduces something new is required.

Another evident aspect concerning the above listed definitions is that innovation can take on a variety of forms such as a product, behaviour, system, process, organization, or business model. Nonetheless, at the heart of all types of innovation is an idea. Specifically, to cite once again the pioneer of innovation concept, Schumpeter (1934, p.38) estimates that «innovation occurs as «the entrepreneur is able to introduce and implement the new idea into a form of widespread use». In this view, initiating some action inspired by the idea starts the process through which the eventual "introduction" of something new can occur, and thus initiates the innovation process, which can encompass any subsequent activity needed to further the idea's development along (Wylant, 2008). Insights into the idea mechanism and the necessity of "thinking outside the box" can inform the discussion on innovation. In this sense, innovation is often left to insight and serendipity discovery (Moskovitz et

al., 2006; Dew, 2009). This last term stands for some combination of search (directed effort), contingency (favourable accidents), and prior knowledge (sagacity). In other words, serendipity is when individuals are involved in some kind of search effort and they accidentally discover something that they were not looking for.

The first domain is represented by "prior knowledge" that is conceived as a stock of information known to a particular individual. The second domain refers to "contingencies", which indicate the influence of the external environment on the discovery of possible opportunities. Finally, the last domain is characterized by "search activity" that involves purposeful actions undertaken to acquire new information. This latter domain is mainly linked to what the literature defines as entrepreneurial creativity (Amabile et al., 1996). Indeed, by mentioning the study made by Fillis and Rentschler (2010, p.66), innovation is conceived to be the "tangibilisation of creativity". In this sense, innovation could be thought as harnessing the creative energy and moving those great new ideas through a defined set of processes to an ultimately valuable conclusion.

To sum up, starting from the Schumpeterian perspective, three streams of research can be distinguished (Tzeng, 2009):

1) The **corporate entrepreneurial stream**; in this approach innovation derives from a grassroots impetus that emphasizes improvisation in action (Burgelman, 1983). In particular, according to Kanter (2002), innovation is improvisational theatre, where the stages are the sunkworks and the actors are the grassroots entrepreneurs. This stream of research takes into consideration the entrepreneur's ability to produce novel and useful ideas or problem solutions. For instance, Amabile et al., (1996, p.143) assert that "innovation

begins with creative ideas and creativity by individuals and teams is a starting point for innovation". Therefore, the products of creativity (e.g. new ideas, principles, or concepts) serve as the "raw materials" for innovation. More generally, creativity is often a necessary condition for subsequent innovations, although not a sufficient one, since many ideas generated by creativity are not commercially feasible or cannot be developed by people who generate them (McMullen and Shepherd, 2006).

Baron and Tang (2011) in their article demonstrate that entrepreneurs' positive affect[2] is related to their level of creativity and that creativity, in turn, is related to firm-level innovation. In this optic, an important role is played by the localised and traditional knowledge. Accordingly, some products, based upon, derived from or inspired by traditional culture may incorporate new elements and contents. Such products can be "new and innovative products" if they include a new interpretation, adaptation or collection of a pre-existing cultural heritage. Hence, traditional knowledge can be an essential source of entrepreneurial creativity and can be a source for inspiration since creativity can find a reliable support in what a firm has found to be suitable in the past for its developmental needs;

2) the **cultural stream**; innovation is deep craft and a product of a deep sense of temporality. Tzeng (2009) maintains that innovation is deep craft *per se*. He recalls the study made by Arthur (2001), which affirms that deep craft is associated with a "shared culture of beliefs, a shared culture of practices"

[2] Affect encompasses moods, which are often relatively long-lasting in nature but not focused on specific events or objects and emotions, and are often shorter in duration, beyond to be more specifically directed toward a particular object (Frijda, 1993).

(p.8). In contrast with conventional thinking based on the assumption that old practices and deeply rooted knowledge in the past can generate conservatism and path dependence, several academics start to recognize the importance of searching in the past to innovate (Kogut and Zander, 1992; Nelson and Winter, 1982; Huber, 1991; Hargadon, 2002; Nerkar, 2003; Messeni Pteruzzelli and Savino, 2014; Capaldo and Petruzzelli, 2014; De Massis et al., 2016).

The perspective of innovation as recombination of past ideas, resources and artefacts is a concept that clearly emerges from the Schumpetarian definition of innovation as «a process carrying out new combinations» (Schumpeter, 1934, p. 65). According to this view, by recombining existing elements, entrepreneurs may exploit well-developed ideas and artefacts rather than inventing new ones. The recombination of existing resources is an act of innovation because, while the social world is typically viewed as a "seamless web" (Di Maggio, 1997), it is fragmented into many small domains in ways that make it difficult to disentangle and recombine the resources from one domain into another (Hargadon and Fanelli, 2002). Individuals within a firm bridge multiple domains and move ideas from where they are known to where they are not. In the light of these assumptions, innovation occurs when individuals recognize the way in which resources in one domain might be valuable in new combinations (e.g. *search breadth*, for a review see Katila and Ahuja, 2002). This represents the link between past experiences and future innovations. Furthermore, the temporal search process (*search depth*, for a review see Gupta et al., 2006) is closely intertwined with the concept of

tradition, which is the stock of knowledge, competencies, raw materials, values and beliefs pertaining to the past (Messeni Petruzzelli and Albino, 2012). This also recalls the "retro concept" (Castellano et al., 2013), a kind of *back to the future* paradigm according to which integrating knowledge from the past into new products can elicit positive feelings and legitimize innovative functionalities. Retro implies much more than just referring to the past: it explains how to connect the past to the present for the future (Brown, 1999).

On the basis of these considerations, it is possible to affirm that tradition is increasingly recognized as a powerful source of innovation through the identification and recombination of the most suitable traditional components. Nevertheless, adopting traditional knowledge may be fruitful only if it is employed together whit more recent applications, linked to an open innovation approach. It becomes therefore important to verify if and to what extent new technologies and innovations can be applied and are compatible with traditional processes. Moreover, relying on past knowledge to innovate can be especially effective in specific industries, such as F&B one, where products have to combine technical functionalities with aesthetic, symbolic, sensory and experiental content (De Massis et al., 2016; Messeni Petruzzelli and Savino, 2016; Peltoniemi 2015);

3) the **capability stream**; innovation is seen as an institutionalized capability that characterizes technological change. Within firms that are characterized by formal routines, relationships among members are instruction-based; outside the firms, affiliated institutions become the engines of innovation.

(Jelinek, 1979; Nelson and Winter, 1982; Corocher et al., 2007). This stream of research is strictly linked to the open innovation concept, according to which innovation benefits from firms' interactions and, thereby, co-operation.

Although the three streams of research are based on different interpretations on innovation, all of them ground their roots in the Schumpetarian studies.

Another important issue in the field of innovation regards the distinction between radical (advancement in knowledge and consequent development of new products and processes) and incremental innovations (on-going improvement to product, process, and service) (Tidd, 2001; Mole and Elliot 1987).

More specifically, **radical innovations** have been defined as innovations that embody a new technology that results in a new market infrastructure (O'Connor, 1998; Song and Montoya-Weiss, 1998). Freeman and Perez (1988) view radical innovations as "discontinuous events, which are the result of a deliberate research and development activity" (p. 46). According to Kusunoki (1997): "besides technological capabilities, introducing radical product change to a market often requires a new set of organizational capabilities embedded in structures, communication channels, and information processing procedures of organizations, and it is usually quite difficult for established firms to adjust their organizational capabilities for developing innovative products" (p. 369).

Incremental innovations can easily be defined as products that provide new features, benefits, or improvements to the existing technology in the existing market (Garcia and Calantone, 2002). So, incremental innovation can often take the form of design improvements, learning by doing (Rosenberg, 1982) and learning by using (Malerba, 1992). Learning during the innovation process generates absorptive

capacity defined as the capability to identify, assimilate and apply knowledge (Cohen and Levinthal, 1990).

Also if underestimated in comparison to radical innovation, the incremental one is crucial for firm's productivity growth (Freeman and Perez, 1988).

Another taxonomy of innovation is that proposed by Robertson (1967), who recognizes three classifications: "continuous", "dynamically continuous", and "discontinuous" innovation. The first one is seen as a small improvement over what already exists; the second one indicates the manner in which an existing functionality can be dramatically improved, and the last one refers to the introduction of significantly different technology or infrastructure that, in turn, leads to unprecedented uses and functionalities. It is also known as disruptive innovation since it can interrupt, disrupt or interfere with concurrent use and behaviour patterns facilitated by existing knowledge (Thomond and Lettice, 2002).

In line with the studies made by Schumpeter, there is a consistent research stream supporting the assumption that innovation is strictly linked to R&D expenditures and patent data (Breschi, 1999; Malerba and Orsonigo, 1995; Breschi and Malerba, 1997). These studies, which are mostly associated with the industrial economics field, have stressed the links between R&D and technological innovation, often indicated by patents and have focused on the relations between R&D, patents and industry variables such as market size, growth and firm size.

The main criticism related to these studies regards the fact that not all innovations are patented by firms. Specifically, different technologies are differently patentable and different types of firms may have different propensities to patent (Avermaete et al.,

2003). This school of thought embeds studies made by researchers that focus particularly on technology-related innovations.

The correlation between R&D investment and innovation performance has been deeply analysed and empirically tested above all with reference to large firms (Acs and Audretsch, 1988; Deeds, 2001; Greve, 2003). Nonetheless, R&D is only one of several inputs into the innovation process and, therefore, cannot be considered as an adequate proxy. Furthermore, it does not appear useful for the measurement of innovation activities implemented by small firms, since these ones may not count on formal R&D expenditures or may not record them (Kleinknecht, 1987; Kühne et al., 2010). As a consequence, levels of R&D intensity are not evidence of good innovation practice (Dodgson and Hinze, 2000).

However, there is substantial academic research about the fact that although small firms invest very little in R&D, they tend to be more innovative than large firms (Geroski, 1995; Patel and Pavitt, 1997; De Propris, 2000). This because small firms, due to their own characteristics (e.g. flexible structures and systems enabling them to respond quickly to market uncertainties), also in total absence of R&D investment, can be innovative if embedded in contexts (also recognized as *loci of non-ubiquitous product and process factors*) conducive to learning and innovation.

2.1.1 Innovation in small firms

Small firms have a reputation as boosters of employment and economic growth. One of the important means through which small firms are able to make these contributions is their capability to implement innovation (Keizer et al., 2002).

Generally, the importance of small firms to economic development has been widely recognized (Acs and Audretsch, 1988; Kumi-Ampofo and Brooks, 2009; Oke et al., 2007). Innovation activities in small firms have also received attention from researchers, but there emerges the necessity to further research in this area (Lee and Ging, 2007). A good starting point to deep the research on the topic, could be represented by the taxonomies realized by Reamaud and Couderc (2006) that investigate on small firms' innovative profiles according to their behaviour, configuration and competitive environment (see table 2.2).

Table 2.2 – Small firms' innovative profiles

Firm behaviour	Firm configuration	Competitive environment
a) Defenders b) Prospectors c) Analysers d) Reactors	a) Simple structure associated with marketing differentiation b) Organic structure associated with new product differentiation	i) Price/Promotion a) Low/low b) High/low c) Low/high d) High/high ii) Other variables a) Cost leadership b) Innovativeness c) Quality image orientation d) Product scope

Source: own elaboration from Remaud and Cordec (2006)

As for small firm behaviour, the first group of firms, called "defenders", strives to protect their mature markets. Firms belonging to this group are conceived to be expert producers, and one of their objectives is to retain and improve their production competitiveness. Firms classified as "prospectors" are those looking for new market opportunities and tend to continually improve their product portfolio. The strong

culture towards innovation seems to be important for these firms in order to achieve product improvements. Moreover, the firm's owner is considered to have a strong entrepreneurial creativity. The third group of firms included in this taxonomy refers to "analysers". These ones prefer to stay and compete in low competitive markets. Nonetheless, because of their profound understanding about the markets in which they operate, they can adapt their strategies in order to respond quickly to markets uncertainties. The last group is labelled as "reactors", because of their passive behaviour. These firms have a complete lack of strategy, reacting to environmental changes only because it is the unique and last option they have in order to survive in the markets they compete.

With reference to small firm configuration, it is possible to distinguish two types of configurations: "simple structure" associated with "marketing differentiation" and "organic structure" associated with "new product differentiation".

In relation to the competitive environment in which small firms compete, the model proposed by Chaganti et al. (1989) considers four different competitive environments: "low price/low promotion competition", "high price/low promotion competition", "low price/high promotion competition" and "high price/high promotion competition". Also other variables are considered: cost leadership, innovativeness, quality image orientation and product scope.

Beyond the study of the small firms' innovative profiles, variables contributing to innovation efforts of small firms are contemplated. These ones can be classified as external variables and internal variables. The first ones regard the opportunities a small firm can seize from its environment; on the contrary, internal variables refer to specific features characterizing a small firm.

Taking as *vademecum* the study made by Keizer et al. (2002), table 2.3 shows variables that can be considered as possible predictors of innovation efforts in small firms.

To keep in mind the classification made by Tzeng (2009), as for the internal conditions, these ones are included into both "cultural" and "corporate entrepreneurial" streams of research. More specifically, small firms, due to their flexibility and less bureaucratization, are more likely to leverage knowledge from the past in order to innovate. In this regard, tradition, being a highly idiosyncratic resource that cannot be easily replicated by others (Kanter, 2002), becomes a key resource for small firms, which are at a disadvantage compared with larger competitors in terms of bargaining for the development and acquisition of complementary assets such as brand awareness, and access to distribution channels (Arora et al., 2009). Moreover, a number of academic contributions acknowledge that small firms are characterized by some specific competencies, such as creativity and innovative thinking, opportunity recognition, and risk taking ability (Cannon, 1985; Heunks, 1998; Fillis, 2001).

With regard to external variables, these ones are strictly linked to the "capability" stream of research (Tzeng, 2009) that, in turn, relates to the open innovation approach. It is largely argued that, compared to large firms, the small ones are more likely to benefit from opening up their internal boundaries by fostering relationships, strategic alliances and networking activities with external actors (Christenen et al., 2005; Brunswicker and Van de Vrande, 2014; Freel and Robson, 2016). Beyond the importance to share knowledge and enter in collaboration partnerhips with suppliers, small firms can activate mechanisms of inter-firm cooperation with a *plethora* of

external actors, namely *customers* (they are an ever-increasing source of knowledge. Johannessen and Olsen (2010) discuss about the so-called "connected customer", who increasingly expects tailor-made products based on individualized and immediate feedback); *competitors* (know-how sharing with players operating in the same sector has been recognized as crucial for fostering innovation in small firms); and *public and private research centers and/or universities* (these are recognized as important sources for small firms due to the effort universities and research organizations exert in transferring specialist knowledge and technology).

Table 2.3 – Variables influencing innovative efforts of small firms

External variables	**Internal conditions**
Collaboration with other firms: • Collaboration with suppliers • Close working relationships with suppliers and customers in co- design and co-makership • Strategic alliances with competitors as an integral part of the firm's development plan *Linkages with knowledge centres*: • Contributions by professional consultants, universities and technology centres	*Strategy*: • Explicit strategies to increase and stimulate internal creativity and risk taking behaviour • Strategies to implement state-of-the-art technology *Structure* • Application of project management structures *Technology policy* • Planning for the future • Search for knowledge components across multiple domains in an attempt to identify novel combinations

Source: own elaboration from Keizer et al., 2002

On the basis of the previous assumptions, it is possible to affirm that, at the firm level, innovation can be considered as:

a process of development and change that is directly influenced by the "technological" (product and process) and "non technological" (marketing and organizational) characteristics of the innovations, by the level of tacitness of knowledge and the capacity to accumulate know-how within the firm, by the ability to produce creative ideas, and by the degree of appropriability of innovation from external sources.

Overall, successful small firms integrate and balance these aspects in order to ensure the introduction of innovative products that the market demands.

What is important to highlight is that the scientific value of an innovation depends on industry conditions (e.g. social environment and geography proximity) (Mueller et al., 2013); this value is further driven by firm's internal characteristics, such as the firm's absorptive capacity (Cohen and Levinthal, 1990), and the search and recombination process to innovate (De Massis et al., 2016), as well as by the innovative behaviour of individuals, in terms of creativity capabilities (Felin and Hesterly, 2007).

In order to provide this dissertation with a more soild theoretical background, the next paragraph will investigate on innovations implemented within F&B industry, paying particular attention to the wine sector.

2.2. Innovation in Food and beverage industry: a focus on wine sector

In recent years, the F&B industry has experienced several societal, economic and technological changes (Bareghegh et al., 2012). Hence, the innovative imperative become very strong for firms operating in this industry and play a key role in sustaining and enhancing their competitiveness (Capitanio et al., 2010; Rama and von Tunzelmann, 2008; Avermaete et al., 2004; Gellynck et al., 2007).

Innovation for the development of the F&B industry seems even more important if the weight of this industry is compared with the overall manufacturing system. With specific reference to Italy, on the basis of data from the statistical archive of Italian National Statistics Institute (ISTAT, 2017), the F&B industry generates an added value of €58.8 billion (2016). This is 24.1 per cent of the total manufacturing value added and represents the highest value among the industries of excellence of *Made in Italy*: fashion (€23.5 billion), furniture (€21.3 billion) and automation (€36.3 billion). The F&B industry is also recording an increase in terms of turnover: €132 billion in 2016, expected to record a raise of 1.5 per cent for 2017 (€134 billion).

Innovation in F&B industry is a rather complex process, since it can be referred to different stages throughout the F&B system: from the development of new ingredients to the improvement of production methods, and/or the implementation of new ways of packaging (Earle, 1997).

Due to the specific features of the F&B industry, the role of the innovation can be better studied by referring to the concept of "innovativeness" rather than to consider

the technological innovation *per se* (Earle, 1997). Innovativeness is deeply influenced by the social embeddedness and by the institutional environment in which the firm operates (Capitanio et al., 2010). In these terms, the geographical location of F&B firms is a fundamental factor behind different attitudes to innovativeness (Nielsen, 2008; Omta et al., 2001). More specifically, the specific location of a firm is important to understand what could be the opportunities to use local social capital and the institutional environment as a source of knowledge and innovativeness (Brasili and Fanfani, 2007). This means that studying innovativeness of F&B firms requires analysis of various factors. These latter affect firm organization and regard both firm-specific characteristics and aspects concerning the environment in which the firm is located and the network of horizontal and vertical relations in which the firm is embedded. This is consistent with Grunert et al. (1997), which state that the firm innovativeness is the result of its internal structure and external linkages. A number of F&B firms rely more on suppliers than on internal effort for innovation (Rama, 1996). In line with this assumption, a consistent research stream demonstrates that thanks to the implementation of innovation in other sectors that are located upstream in the supply chain (e.g. biotech, agriculture, packaging), also F&B firms are induced to innovate in order to profit from the superior capabilities of their suppliers (Tatikonda and Stock, 2003; Schiele, 2006; Johnsen, 2009; Di Stefano et al., 2012). As a consequence, a relevant means for introducing and constantly improving the level of innovativeness of the F&B industry is to cooperate with suppliers. In their work, Moskowitz and Hartmann (2008) state that the F&B industry is characterized by a rather slow-moving nature, given that it is not subject to the innovation pressure that other sectors are subjected to. This is more

accentuated in food traditional products (FTPs) because consumers perceive them as having a strong distinctive character linked to the cultural heritage (Guerrero et al., 2012; Trichopoulou et al., 2007). FTPs are those of which (1) the key production steps are performed in a certain area at national, regional or local level, (2) are authentic in their recipe, origin of raw material, and/or production processes, (3) are commercially available for about 50 years and (4) are part of eno-gastronomic heritage (Gellynck and Kühne, 2008).

Although this could seem to be contradictory to the idea of innovation, in order to maintain and even increase their market share, FTPs need to be improved by introducing innovation that fulfil consumers' demand.

Overall, innovation in traditional industry, such as the F&B one, strengthens and widens the market for FTPs (Trichopoulou et al., 2006).

The economic importance of the F&B industry and the strong imperative for innovation has led to a research stream focused on innovation in F&B industry. This mainly deals with research and development (Bougheas, 2004; Love and Roper, 1999); networks and the supply chain (Drivas and Giannakas, 2006; Fortuin and Omta, 2009); innovative behaviour (Avermaete et al., 2003; Rama and Von Tunzelmann, 2008); product and process innovation (Avermaete et al., 2004; De Jong and Vermeulen, 2006); and, technology (Bigliardi and Dormio, 2009; Rodgers, 2008). Nonetheless, there has paid little attention on drivers of innovation and types of innovation with reference to a specific sector. One exception is represented by the study of Capitanio et al. (2010), which, investigating on product and process innovation within Italian food firms, state that food firms develop more process innovations than product innovations, and that the majority of product innovations

are incremental. In the same direction, even the research made by Avermaete (2002) reveals that small food firms are mainly engaged with incremental product and process innovations with a low rate of radical process innovations.

While there is a well-established body of research into F&B industry, much of it is referred to a specific sector, such as: speciality food (Stræte, 2008), functional food (Bigliardi and Galati, 2013), meat (Leroy et al., 2013) and, above all, wine. Accordingly, among all the innovations introduced in F&B industry, researchers recognize wine as one of the most interesting areas of research and innovation (Bigliardi and Galati, 2013; Rossi et al., 2012; Thrassou and Vrontis, 2006 and 2010; Vrontis and Papasolomou, 2007; Vrontis et al., 2011; Vrontis et al., 2006; Vrontis et al., 2016).

Known for being a traditional industry, wine production has recently appeared as a dynamic knowledge-intensive activity (Loubere, 1990; Paul, 1996).

According to some scholars, the wine sector is one of the most representative economic activities in many countries in terms of employment and companies' revenues (Bigliardi and Galati, 2013; Giacosa et al., 2014; Menrad, 2004).

Due to the relevance of this sector and the relative growing interest of the researchers in carrying out studies in this field, the current dissertation deals with an up-to-date literature review.

The review was limited to journal articles published up to July, 2017 (inclusive), excluding working papers, research notes and commentaries, dissertations, books, book chapters and conference proceedings (Keupp et al., 2012). This because journal articles are conceived to be repositories of valid knowledge (Podsakoff et al., 2005).

As suggested by previous academic contributions (Christoffersen, 2013; Keupp et al., 2012) journals listed in "management" and "food sciences" categories of the ISI Web of Knowledge have been reviewed. This selection yielded a list of 85 journals.

The EBSCO host was the main database used for literature search. Beyond this one, also other bibliographic electronic databases including Emerald, ScienceDirect, Scopus and Google Scholar have been taken into consideration. A total of 116 works were retrieved. This number derived from the general nature of the selected keywords "innovation" + "wine" and "innovative" + "wine".

The 297 initial articles were reviewed following exclusion and inclusion criteria (Pittaway et al., 2004; Wang and Chugh, 2014):

I. The first criterion was the definition of time-span: the author chose year-2000 as the date of reference for this review. This because starting from the new millennium, the wine industry has been witness of profound changes due to the spread of the globalization process and the implementation of innovation practices. Indeed, until this date the production and consumption of wine was relatively localized and anchored to traditional and standardized procedures: wine producers were isolated from each other, and most of the world's wine drinkers consumed either local wines or imports from nearby producers (Anderson, 2001). In addition, the scientific production on innovation within wine sector was very scarce because wine suffered from an "old industry" reputation (Aylward, 2005). Starting from 2000, as consequence of the export performance of the New World producers (Australia, New Zealand, Chile, Argentina and South Africa), the dominant and established market position of the traditional wine producers' countries (France, Italy, Spain) has being

under threat. Therefore, it is no coincidence that just from this period, several scholars initiated to show a major interest in studying and analysing the theme of innovation within the context of wine industry.

II. The second stage was characterized by the exclusion of all articles written in languages different from English.

III. In the third step, the author used the Social Science Citation Index (SSCI) to identify journals for inclusion. This ensured the exclusion of articles no significantly influential in the academic debate. This process resulted in a final set of 30 selected journals.

IV. The fourth step was based on the examination of the titles and abstracts of these articles, dropping papers that were not specifically suitable for the research scope of the current dissertation.

Following this method 72 publications were excluded and the final sample consists of 44 non-invited peer-reviewed journal articles.

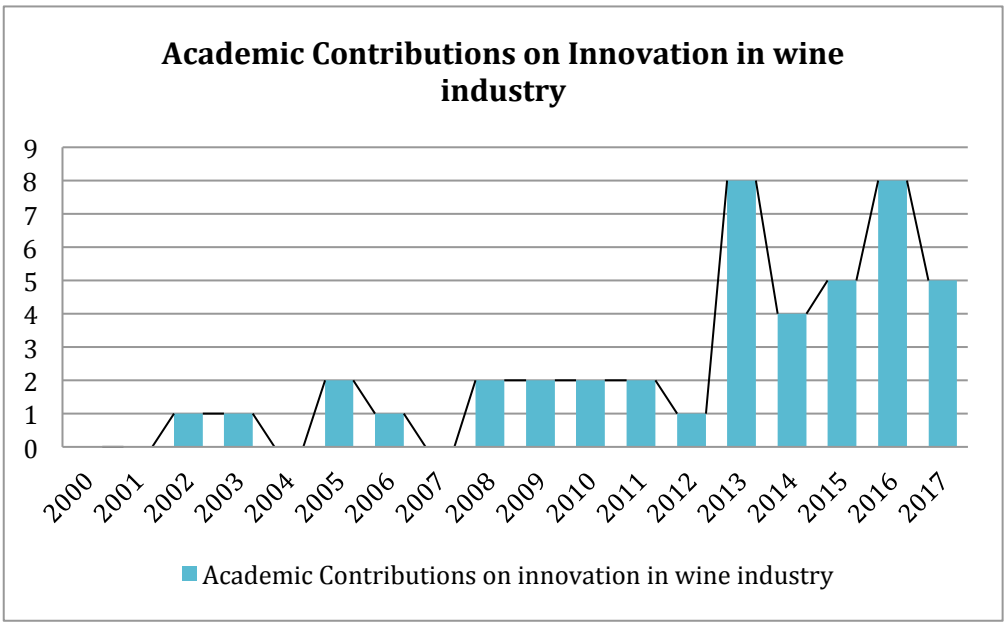
The graph 2.1 shows on the X-axis the year and on the Y-axis the number of papers published in the period 2000-2017.

It is interesting to note that the scientific literature production reaches the top in 2016 and also 2017 is following this highly positive trend. Indeed, by taking into account that for this last year only seven months have been under investigation, the published papers amount already to five. This surely highlights the emergent nature of the topic, besides an always more growing interest in deeply understanding the innovation dynamics governing this sector.

Furthermore, examining the journals in which the selected articles are published reveals how widespread this topic is in both the innovation management and food

science literature. This latter field of research has been studied because some innovations can regard wine as product and the process of vinification and/or viticulture. These are very specific arguments that need to be deeply investigated in order to reach a holistic vision of how product and process innovation in wine industry can occur.

Graph 2.1 – Academic contributions on innovation in wine industry from 2000 to 2017

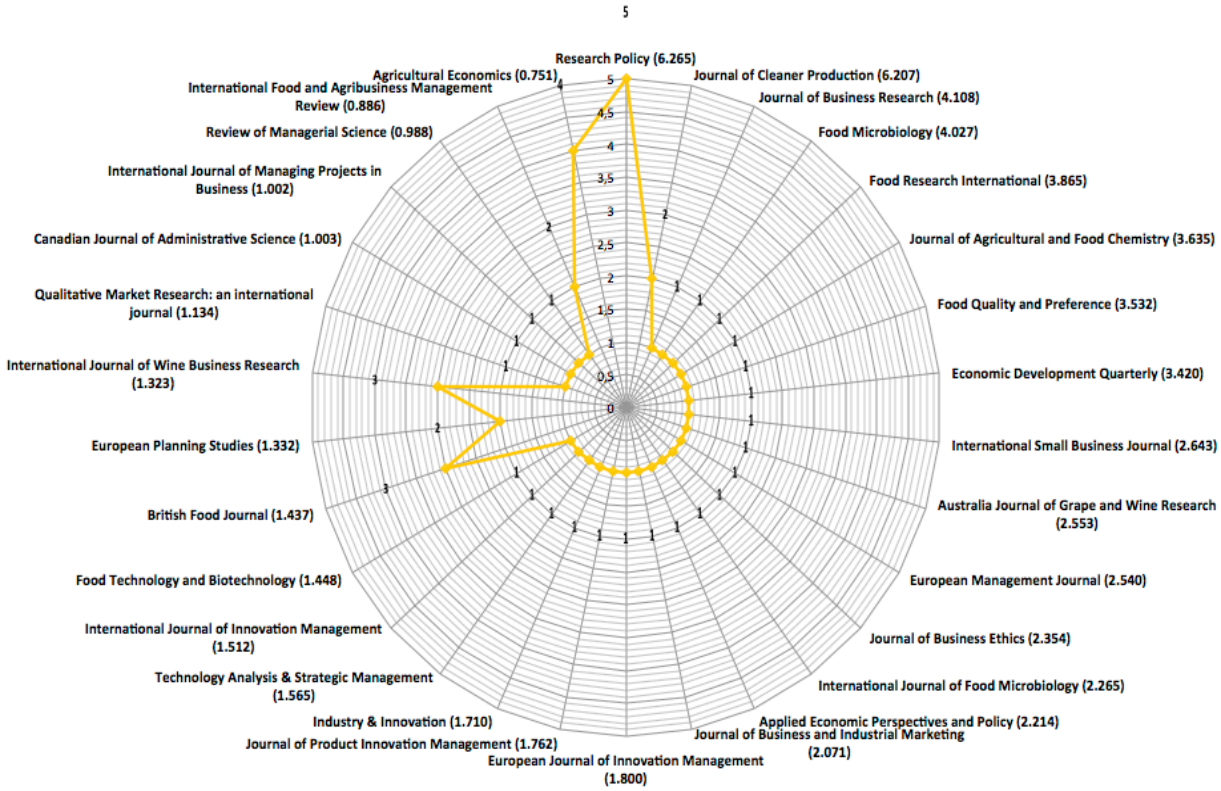


Source: own elaboration

The graph 2.2 shows a very fragmented situation since 84% of the reviewed journals accounts on one published paper, whilst the remaining part is characterized by journals with two or more articles on wine innovation subject. Looking at the graph, there are: *Research Policy* with five published articles, *Agricultural Economics* with four papers, *British Food Journal* and *International Journal of Wine Business*

Research with three publications and, at least, *Journal of Cleaner Production, European Planning Studies* and *International Food and Agribusiness Management Review* with two papers. All other journals account for just one contribution on the theme under investigation.

Graph 2.2 – Number of articles *per* journal with 5-years impact factor*



* Starting from *Research Policy*, all journals follow a clockwise direction (from the highest 5-year impact factor journal to the lowest one)

Source: own elaboration

Since journal impact factors should not be used in evaluating the influence of papers, because they are short-term measures of average influence for entire journals, table 2.4 provides the number of papers *per* journal associated with the average total

citation count per article. The total number of the average citation *per* article published in the selected journals is 26,8. By considering that wine innovation is a topic that in last five years has considerably grown and is still recording very positive outcomes (looking at graph 2.1, from 2013 to 2017 the number of published papers is about 70% of the total scientific production), the total number of the average citation *per* article is absolutely a significant figure to take into account.

Table 2.4 – Average rates of citation for journal articles

JOURNALS	Avarage Total citation count *per* article	Number of articles *per* journal
AGRICULTURAL ECONOMICS	1,25	4
APPLIED ECONOMIC PERSPECTIVES AND POLICY	6	1
AUSTRALIAN JOURNAL OF GRAPE AND WINE RESEARCH	9	1
BRITISH FOOD JOURNAL	6	3
CANADIAN JOURNAL OF ADMINISTRATIVE SCIENCES	1	1
ECONOMIC DEVELOPMENT QUARTERLY	7	1
EUROPEAN JOURNAL OF INNOVATION MANAGEMENT	17	1
EUROPEAN MANAGEMENT JOURNAL	2	1
EUROPEAN PLANNING STUDIES	30	2
FOOD MICROBIOLOGY	3	1
FOOD QUALITY AND PREFERENCE	4	1
FOOD RESEARCH INTERNATIONAL	1	1
FOOD TECHNOLOGY AND BIOTECHNOLOGY	13	1
INDUSTRY AND INNOVATION	1	1
INTERNATIONAL FOOD AND AGRIBUSINESS MANAGEMENT REVIEW	4,5	2
INTERNATIONAL JOURNAL OF FOOD MICROBIOLOGY	8	1
INTERNATIONAL JOURNAL OF INNOVATION MANAGEMENT	45	1
INTERNATIONAL JOURNAL OF	10	1

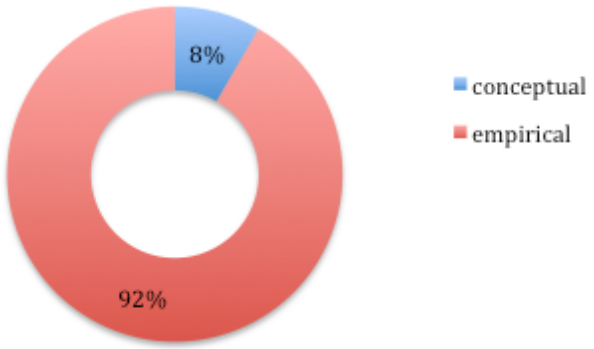
MANAGING PROJECTS		
INTERNATIONAL JOURNAL OF WINE BUSINESS RESEARCH	**18**	**3**
INTERNATIONAL SMALL BUSINESS JOURNAL	**1**	**1**
JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY	**9**	**1**
JOURNAL OF BUSINESS & INDUSTRIAL MARKETING	**9**	**1**
JOURNAL OF BUSINESS ETHICS	**1**	**1**
JOURNAL OF BUSINESS RESEARCH	**3**	**1**
JOURNAL OF CLEANER PRODUCTION	**3**	**2**
JOURNAL OF PRODUCT INNOVATION MANAGEMENT	**38**	**1**
QUALITATIVE MARKET RESEARCH	**1**	**1**
RESEARCH POLICY	**93**	**5**
REVIEW OF MANAGERIAL SCIENCE	**1**	**1**
TECHNOLOGY ANALYSIS & STRATEGIC MANAGEMENT	**7**	**1**
Total	**26,8**	**44**

Source: own elaboration

Furthermore, as emerges from the graph 2.3, most of research (92%) regards empirical papers rather than conceptual ones. Specifically, these latter retrace the different phases of the emergence of New World countries and their entry in the global wine market. Hence, they mostly concentrate on the study of innovation practices adopted in these countries and illustrate the gradual *catch up* process that latecomers have experienced. Nonetheless, being the issue under investigation highly specific because of its strong reference to the wine industry, there seems to be obvious that almost all academic contributions on the theme are based on empirical studies. In particular, with the exception of scientific papers related to food science and agronomy field that empirically investigate on some innovative techniques applied to wine as a product, the majority of publications belonging to management field are characterized by case studies.

Specifically, before the emergence of New World countries, most of research on wine has followed two main trajectories (Touzard, 2010): 1) the institutional analysis focused on the study of the influence of technology and institutions on economic changes in this industry, contributing to strengthen the scientific knowledge on the major conventions of quality (e.g. from *table wines* - wines not very expensive and used for ordinary meals to *fine premium wines* - wines generally characterized by more aging potential than every day quaffing wines; 2) the investigation on marketing projects, such as wine packaging and labelling (Spawton, 1990).

Graph 2.3 – Conceptual and empirical papers

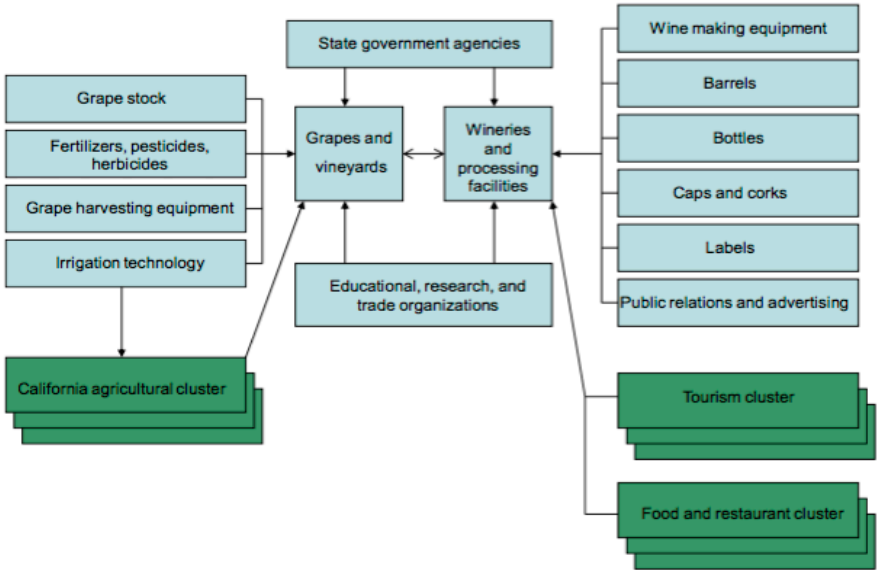


Source: own elaboration

Together with the growth of the wine industry in New World countries a systemic research on innovation emerged. This analysis started with Porter (1998) that in his book *Clusters and new economics of competition*, took as an example of his competitive advantage theory the best practice of California wine cluster (see fig. 2.1).

This is a cluster with both vertical and horizontal links among its actors. Growers and wine firms are at the core of the process in California and upon them hinges a broad set of companies and institutions that provide the winemakers with services and goods in the upward (viticulture) and downward (winemaking) phases of the production. Very important are the supporting activities carried out by both government agencies and educational/research institutions. Strictly connected with wine cluster, there are the agricultural, the food and the tourism one. The cooperative behaviour of the firms involved has fostered gains for the entire sector.

Fig. 2.1 – California wine cluster



Source: Porter, 1998: 79

Some years later, this study was followed by other scientific works, which relied on an *ad hoc* investigation on wine clusters of Australia (Aylward, 2003, 2004 and 2006), Argentina (Mc Dermott, 2007), Canada (Wolfe, 2005), California – Napa Valley (Taplin, 2011), Chile (Gwynne, 2008; Jan Visser and de Langen, 2006) and

South Africa (Lorentzen, 2009). The majority of these academic contributions highlight the role of innovation systems of these countries in the international wine arena, mostly concentrating on the relationships between firms and public research centres (Giuliani and Bell, 2005; Morrison and Rabellotti, 2009). Other works underline the importance of clusters in order to assess the relationship between economic players (farmers, cellars, traders, etc.), research organizations and public entities (e.g. governments, local institutions, etc.). However, what emerges is an extensive attention through the use of cluster analysis for studying and examining the wine industry (Mc Dermott, 2007). According to some scholars (Moreno et al., 2011), within the context of innovation policy, cluster literature is often an important part of the analysis.

In servicing international markets, New World wine firms quickly realized that the most effective way to compete with their Old World counterparts was to produce and market a high-quality product, at competitive price points, to the world. This required a well-developed supply chain, sustainable alliances between growers and producers, significant public and private sector infrastructure and a unified marketing strategy. To a very large extent, the strategy has worked, and, clusters have evolved.

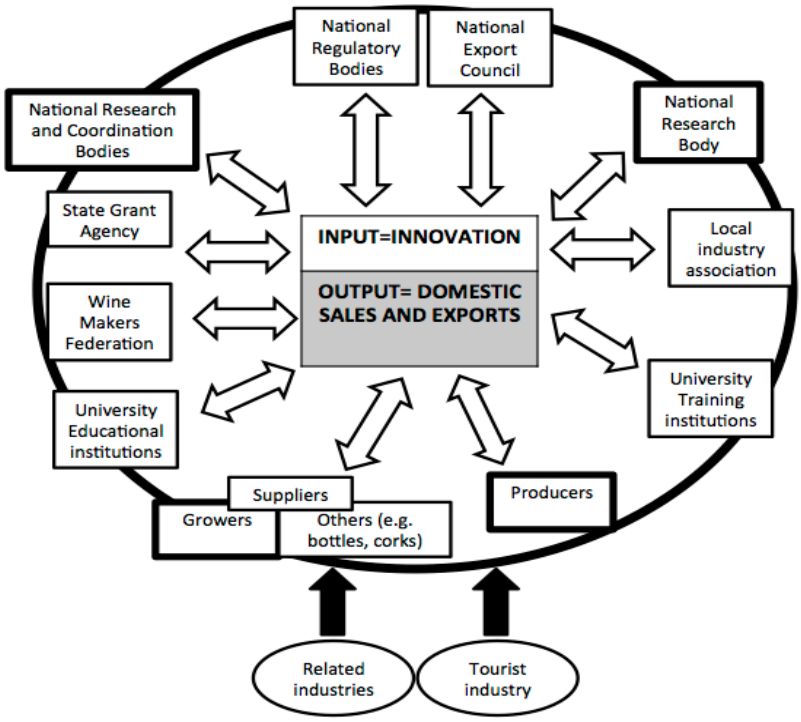
One of the most important examples of innovative clusters in the world is the Australian wine industry, analysed by Aylward (2004; 2006) (see fig. 2.2).

The most interesting findings derived from the studies made by Aylward are related to the empirical demonstration of: 1) the strong and close connection between the innovative nature of the Australia wine cluster and its export orientation; 2) the tough relationships that firms operating within the Australia wine industry hold with

industry organizations, such as the National Research Bodies (Cooperative Research Centre for Viticulture – CRCV and Australian Wine Research Institute – AWRI).

In this context, while the "geographical proximity" item can surely explain both above-mentioned connections, also membership in the innovative cluster seems to be a key explanatory variable, since all players operating within this cluster appear to have a strong cooperative attitude.

Fig. 2.2 – The Australian "innovative" wine cluster



Source: Aylward, 2006: 8

Following the example of the Australia wine cluster, but in general of the New World countries, even European Union Commission has recently funded research in the wine industry for Italy (Giuliani, 2007; Morrison and Rabellotti, 2009), France

(Ditter, 2005; Remaud and Cordec, 2006), Spain (Larreina and Aguado, 2008; Morrison and Rabellotti, 2009) and Portugal (Rebelo and Caldas, 2013).

These studies are mainly oriented to analyse clusters, Regional Innovation Systems (RIS), National Innovation Systems (NIS) or Sectoral Innovation Systems (SIS) (Malerba, 2004), paying little attention to the drivers that lead small firms to enter into a network. Specifically, these works provide a well-established conceptual framework for describing complex interactions between wine firms, research centres, universities and government or professional organizations (Lorentzen, 2008). While cluster analysis aims at emphasizing regional factors and local networks, the RIS, NIS or SIS approach better integrates market and public policy influence.

With reference to wine industry, the "interactionist approach" of the SIS starts with the characterization of innovation processes observed in different regional vineyards, investigating on the relevant relations and institutions involved in these processes.

In the studies based on NIS and SIS, the focus is on the various policy domains that intersect and influence the product as well as information flows and linkages (Aylward and Turpin, 2003). However, with the exponential rise of the demand for knowledge intensity and the increasingly global nature of knowledge production and transmission, the NIS and SIS approach fails to capture how and to what extent different aspects of knowledge intensive activity intersect across specific localities, regions or nations (Arocena and Sutz, 2000). In this optic, an advantage resulting from the adoption of the RIS and cluster concept consists of revealing the evolution and current structure of an industry overcoming the problem to establish artificial sectoral boundaries. Indeed, the idea of clusters, RIS and "innovative *milieu*" imply the importance of interdependence embedded in "geographic proximity" (Rosenfeld,

1997). In the case of clusters, since knowledge is incorporated in the skills of individuals, learning mainly occurs through face-to-face interaction. Thus, members of a geographical agglomeration benefit from local knowledge spillovers (LKS), because they are spatially close and embedded in local networks of informal contacts (Jaffe et al., 1993; Giuliani, 2007; Morrison and Rabellotti, 2009). The view that knowledge spillovers are highly localized is also empirically demonstrated in a number of other econometric studies, which show that geographical proximity matters since it increases the actors' probability of interaction and, hence, the flow of information exchange among them (Audretsch, 1998; Jaffe et al., 1993). Moreover, other studies refer to the concept of *innovative milieu* to explain that learning processes occur at local and network levels (Camagni, 1991; Keeble and Wilkinson, 1999; Torre and Rallet, 2005). This school of thought considers learning as a collective, social process involving people who share strong social and cultural values. According to this approach, it is not only firms' geographical proximity, but also their embeddedness that influences the process of innovation in clusters (Capello and Faggian, 2005).

Above all for wine industry, the theme of geographic proximity is very important since firms count on more exclusive appropriation of operating knowledge (Taplin, 2011). They are willing to emphasize site-specific characteristics, while retailing an affiliation with the broad regional brand identity. In this industry, location is socially accepted as a legitimate and necessary identifying attribute (Beebe et al., 2013). The concept of *terroir* is central to understand the basis of a wine cluster's identity and it is the political, economic and social construction of a boundary (Patchell, 2008).

Overall, the elements characterizing wine clusters can be summarized as follows: a) the heterogeneity of internal elements influenced by the diversity of firms and the presence of government and research centres, as well as universities; b) the existence of linkages within the geographical location; c) the development of innovation at the regional level; 4) the differentiation of wine clusters according to the scarcity of *terroirs*, climatic particularities, and the political and economic legislation, as well as the importance of tradition linked to both firm and territory. Moreover, the set of relationships that underlie clusters typically bind firms through actions that are mutually beneficial, with such knowledge and information sharing constituting the glue that holds the cluster together and relies upon elemental trust-based appraisals.

With respect to both Old and New World countries, what emerges from the literature is that there is no single, standard "one fits all" model of clusters. Every country and region has a different set of clusters, shaped by historical background, national characteristics, the strength of the knowledge base, size, connectedness, and share of innovative products (Aylward, 2006).

Over the years, however, a number of scholars has started to highlight the need to understand the process of innovation and localised knowledge, looking at the role played by firms, rather than at the institutional meso-level characteristics of territories (Martin and Sunley, 2003; Markusen, 2003; Giuliani and Bell, 2005). This dissertation is part of this stream of studies, since it takes into consideration a specific micro-level dimension.

Indeed, consistent with the research scope, this current work adopts a multi-layered approach aimed at investigating on different aspects characterizing small wine firms' innovative behaviours. Starting from the consideration that a more integrated and

comprehensive outline of the argument under investigation may offer a broader set of information on the application of innovation to an acknowledged traditional industry, such as that of wine, the analysis proceeds with the description of the range of innovation types (product/process and marketing/organizational) relevant for this specific industry.

2.3 Dimensions of innovation

As emerged from the previous paragraphs, the innovation literature is a fragmented corpus, and academics from a diversity of disciplinary backgrounds maintain different ontological and epistemological positions to explore and analyse a phenomenon that is multidimensional and complex in nature (Wolfe, 1994).

After having reviewed the literature on wine innovation, there appears clear that most of academic contributions focuses on cluster model to study and investigate on the factors that positively affect innovation processes. Nonetheless, since this study is based on a micro-level of analysis, firm-specific characteristics should be taken into account and deeply examined. In addition, even if both cluster and innovative *milieu* models provide theoretical framework to study innovation activities within a systemic approach, both of them lack to explain on which basis firms engage in collaborative relationships and joint innovation activities. Thus, in order to provide a stronger foundation for both research and practice in innovation, there has been carried out a categorisation of innovation that considers the definition provided by Oslo Manual (Organisation for Economic Co-operation and Development - OECD,

2005). It distinguishes mainly between product, process, marketing, and organizational innovation.

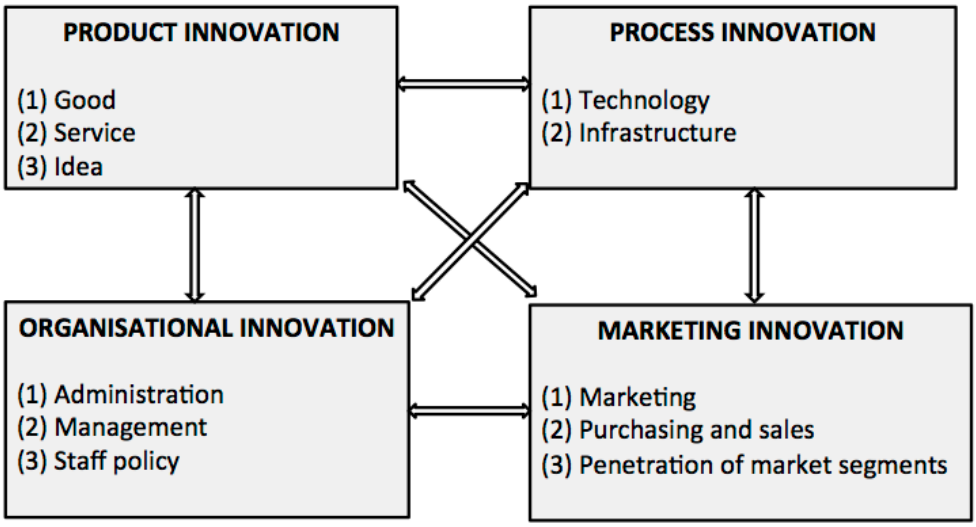
Although most researchers have focused on technology-related innovation, such as the introduction of products that need radical changes in the production process, the concept of innovation can go beyond this oversimplified approach. Indeed, it can be referred to something that brings improvements to products and processes, changes to organizational structures and marketing activities. This idea is stressed in Lundvall (1992, p.8) who defines innovation as «on-going processes of learning, searching and exploring, which result in new products, new techniques, new forms of organization and new marketing activities». Hence, product, process, marketing and organizational innovations are incremental (i.e. simply building on what already exists, requiring modifications to the existing products) rather than radical. Sporadic "breakthrough" innovations make the old ways of doing things obsolete (Van de Ven, 1999).

As depicted in the fig. 2.3:

- **product innovation** involves new or significantly improved goods or services;
- **process innovation** consists of new or significantly optimized methods of production or distribution. It can include adapting existing production lines, installing completely new infrastructure, and implementing new technologies. On the whole, process innovation leads to the creation of new products;
- **marketing innovation** refers to strategic tools, such as changes in the packaging, in the positioning of the product or even promotion of products and prices;

- **organizational innovation** concerns with the implementation of a new organizational method in a firm's business practices, workplace organization, or external relationships. The feature that distinguishes organizational innovation from other organizational changes is the implementation of an organizational method that has not been used before in the firm and that is the result of strategic management decisions.

Fig. 2.3 – The range of innovation types



Source: OECD, 2005 and adaptation from Marques (2014).

Innovation is often the result of simultaneous changes in different domains and the arrows between the boxes in the diagram indicate the scope for such interaction.

Every kind of innovation is made of technology and semantics, of function and uses, of embedded knowledge and pragmatic knowledge of exploration and exploitation (Orlikowski, 2002; Carlile, 2002; Dell'Era and Bellini, 2009).

The main reason for looking at the categorization of innovation stems from the need to address important questions concerning the sources and nature of different types of innovation, and more importantly to shed light on whether co-operation, in terms of systemic innovation can foster one type of innovation, rather than another (De Propris, 2000).

In the next paragraphs all innovation dimensions shown in the fig. 2.3 will be thoroughly deepened.

2.3.1 Product and process innovation

Innovation in traditional resource-based sectors, like the wine sector, pertains to simultaneously product and process innovation in terms of changes in the product composition, product size, form or new ways of using the products, and/or applications relate to the improvement of the production process in order to assure quality and traceability. According to some scholars innovation in natural resource-based sectors, innovation would mainly consists of process innovation, since very few innovative efforts would be required by the product characteristics per se, due to specific sectoral patterns of acquisition of innovative knowledge (Pavitt, 1984; Malerba, 2004). Hence, since product innovation is mostly associated with changes in processing (Avermaete et al., 2003), product and process innovations are jointly analysed.

Though to a different extent, both the introduction of new products and the improvements of the existing ones have found their ways into small wine firms, either through the direct initiatives of the winemakers, or *via* the consultancy of

oenologists or viticulturists working for the firms or the inter-professional organisations that support their activity (Cassi et al., 2011).

Changes in vineyard practices are spreading as the focus shifted in improving grape quality. Overall, improvements in quality and reliability of wines are needed to develop a good reputation for premium wines.

Previous studies identified quality to be a paramount issue for the wine industry. The meaning of 'quality' is represented by the characteristics of the wine as a 'premium' beverage (Samson and Sohal, 1990; Chong, 2014). Product quality of the wine arises from a production process that includes consumers' requirements and manufacturing capability (Duval, 1993). Premium wine is the result of a diffusion of deep technical innovations in agronomic and eno-technical practices. These innovations are enabling the evolution, and diffusion as well of a different wine culture (Bortoluzzi et al., 2015).

As emerges from the literature, production and consumption patterns have been driven by the introduction of a range of innovative processes and products. These ones are related to:

- *introduction of new farming cultivation techniques* (e.g. organic and/or biodynamic viticulture methods) (Farinelli, 2016; Bortoluzzi et al., 2015);
- *introduction of the grape harvest mechanization* (e.g. self-propelled harvester; tractor-drawn harvester) (Tudisca et al., 2013);
- *use of selected (autochthon) yeasts and adoption of enzymes to regulate fermentation* (Pezzillo Iacono et al., 2014);
- *use of "concrete eggs" to ferment wine* (Howard, 2015);

- *use of barriques during the fermentation and/or conservation processes* (Chandra et al., 2016; Lenzi, 2013);
- *introduction of new varieties of grapes* (Farinelli, 2016; Bortoluzzi et al., 2015; Chiffoleau and Touzard, 2014);
- *installation of refrigeration devices* (e.g. wireless sensor networks) at the various stage of vinification (Zhang et al., 2015; Houtman and Du Plessis, 2017; Farinelli, 2016)
- *use of gravity flow mechanisms* during the wine pouring (Farinelli, 2016; Carter, 2017; Barbaresi et al., 2017).

With respect to the above-listed product and process innovations, there seems to be evident that most of them refer to the management of the "cold chain". Temperature control is considered one of the most important factors during grape storage after harvesting, during alcoholic and malolactic fermentation and wine aging.

Wine innovation has been so far a typical activity of New World countries, and not so much of Old Wolrd ones. The "pioneer spirit" of the New World regions generated an innovative and dynamic approach to wine sector, so that also Old World countries are striving to react to this evolution (Contò et al., 2014; Spielmann and Charters, 2013; Alonso and Northcote, 2009; Dalitz, 2009). Nonetheless, the wine business in Italy, France and Spain is heavily regulated as local and European law control inputs and processes. Local wine firms are generally embedded in a triple layer of regulation – regional level, national level, especially in the appellation wine categories (DOC and DOCG) and European level within the framework of the Common Agricultural Policy (CAP) (Corsi et al., 2014). This strict regulatory environment forces wine firms to satisfy numerous restrictions on which grape

varieties can be used (if they want to use appellation of origin on their labels), on maximum yield and alcohol content, on vine density, on blending wines to their liking, and on irrigation systems (Cusmano et al., 2010). To address this situation EU countries are engaged in a restructuring of their wine regulatory frameworks. The reform of the EU wine market, applied from 2009, is aimed at the simplification of wine-making practices and labeling policies. Under pressure to adapt to ongoing EU reforms, instituitional renewal is also occuring at regional and national level.

Due to the restrictions imposed by EU and national/regional regulatory systems and in line with the reserch scope of the current dissertation, the categorisation of innovative processes and products in wine industry has been carried out by taking into account these specificities. For example, even if the idea of ‘‘recombination of components into new blends’’ is acknowledged in the literature as expression of wine product innovation (Moskowitz et al., 2006), because of the above-mentioned restrictions, this specific variable has not been listed as source of product/process innovation.

Looking beyond the range of product/process innovations and including additional domains of innovation as illustrated in the fig. 2.3, the attention shifts on new organizational and marketing approaches that can be implemented in wine industry.

2.3.2 Organizational and marketing innovation

Academics and practitioners are increasingly interested in understanding how firms can create innovation (e.g. Keupp et al. 2012; Yu and Hang 2010) and identify core

organizational capabilities. The organisational innovation literature identifies a number of related concepts such as innovative culture (e.g. Jassawalla and Sashittal, 2002; Whyte et al., 2005), and organisational structures for innovation (e.g. Pierce and Delbecq, 1997), but its definition strives for a shared and universal acceptation. Indeed, the defintion of organizational innovation in not as easily agreed in innovation literature as those for product and process ones (Armbrustrer et al., 2008). This derives from the fact that literature on the subject is still scarce and reflects various definitions of the concept (Camisón and Villar-López, 2014). According to some scholars (Armbruster et al. (2006, 2008), it can be conceived as a change in the structure and processes of an organization due to implementation of new managerial and working concepts and practices, such as teamwork in production, supply chain management, or quality management systems. A more recent definition is provided by Battisti and Stoneman (2010, p.5), which consider organizational innovation as an «innovation involving new management practices, new organization, new marketing concepts and new corporate strategies».

Starting from this latter definition and in order to complete the examination of the innovations types proposed by OECD (2005), the present study provides a focus also on marketing innovation. This one includes programs and/or practices through which firms can develop new ways of marketing themselves to potential or existing customers (Contò et al., 2015). There seems to be important to clarify that marketing innovations are not synonimous of market innovations that, according to Johne and Davies (2000), are concerned with activities such as the access into new markets (Halpern, 2010). Nonetheless, due to the intrinsic ties that marketing innovations have with market orientation, past research identifies a linkage between marketing

innovation and the segments of customers served (Chebbi et al., 2013).

To assure a match between expectations and perceived service quality, marketing innovations should manage service promises, manage customer expectations, improve customer education and manage internal marketing communication (Vrontis et al., 2011).

On these premises, both organizational and marketing activities can be included in the umbrella concept of "internal innovation activities" (Doloreux et al., 2013). This one summarizes innovation activities related to organizational, training, marketing and commercial aspects for the market introduction of the firms' product development.

Shifting the attention on the wine industry, internal innovation activities can be related to:

- *wineries as tourist attraction*s (Morrison and Rabellotti, 2017). Nowadays, wineries are intended to be "talking" structures capable of communicating not only the distinctive product features, but most of all the intangibles elements of wine, the story of winemaking generations, a company philosophy. The winery is built following the experiential, emotional, symbolic and social values concerning the product and the place;
- *use of a website (wine blogs), social networks (Facebook, Twitter, Instagram), newsletters for marketing purposes* (Farinelli, 2016; Contò et al., 2014) For this item, examples of innovation activities can be referred to online promotions that include humour, sentiment, fun videos, contests, and other intriguing contents that an online user would want to forward to others. Then, the web is conceived to be a great tool for achieving notoriety among

consumers and visitors. Newsletters that usually contain info about the winery and its wines could enhance customers' loyalty and develop direct sales, and, at least social networks are often used for cultivating strong customer relationships;

- *organization of winery tours, food and wine tastings, cultural events* (Farinelli, 2016; Contò et al., 2014; Maizza et al., 2017; Lenzi, 2013). Guided tours can make consumer more comfortable with wine. Tasting rooms and wine bars act as antennas to capture weak signals coming from the market. Cultural events, in terms of knowledge exchange and accumulation, are sometimes judged even greater than attendance at seminars and workshops with professionals and scientists (Lenzi, 2013);
- *adoption of a sophisticated architectural design of the winery as a marketing tool* (Morrison and Rabellotti, 2017; Farinelli, 2016). Archi-stars coming from all over the world design cellars as modern and functional spaces, inspired by beauty and tradition.
- *increase of visibility through in-store merchandising activities* (e.g. free sampling, special offers, sponsorship) (Negrin, 2015);
- *participation in national and international wine fairs* (Lenzi, 2013; Farinelli, 2016). The role of national/international fair trades is vital to ensure a source of continuous update on current production trends and techniques and to monitor the frontier of the sector and competitors' behaviour;
- *commercial activities in terms of export orientation* (Bortoluzzi et al., 2015; Doloreaux et al., 2013). This dimension relates to the international expansion of the wine firm in new markets. Specifically, it concerns with the

investments that winemakers make to increase their presence in foreign markets;

- *training highly educated, technically and experience personnel* (Gil et al., 2015; Lee et al., 2016). The introduction of any kind of innovation involves changes to the way that people work and modifies roles, responsibilities and relationships. In this sense, appropriate training plans become a critical factor that facilitates and promotes innovation.

The relevance to understand the domains of innovation, both generally and in a given industry, in this case wine industry, leads to deeply explore the theoretical foundations tied to the open innovation paradigm, concentrating the attention on external sources of knowledge and systemic collaboration. In a global market charcterized by a shift in demand from bulk to quality wines, and by increasing a number of competitors from the New Wotld, access to knowledge is a key competitive asset. In this sense, both intensive info exchanges with external actors and mechanisms of inter-firm cooperation offer the opportunity to multiply learning occasions and find new ways to introduce innovation.

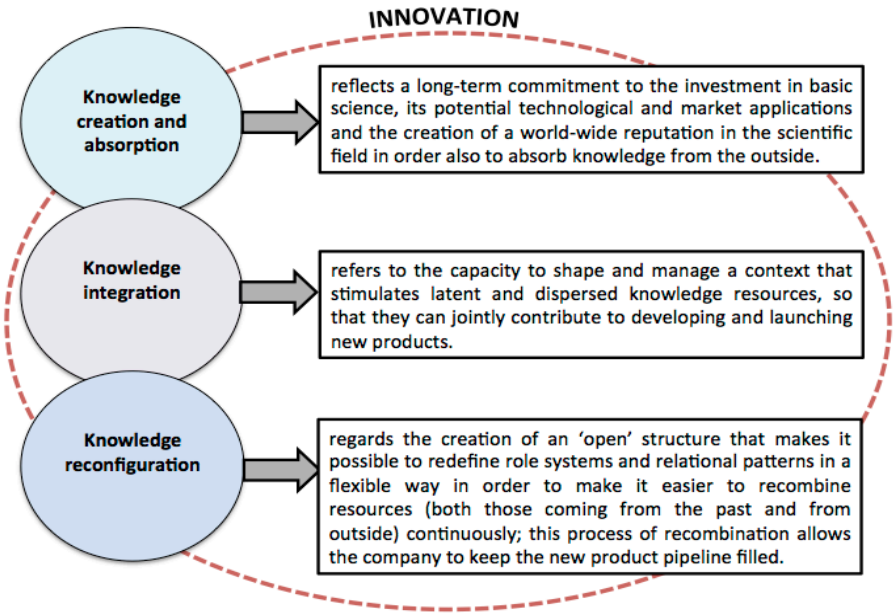
2.4 Open innovation: a thirst for knowledge

The act of innovating is strongly related to the creation of new knowledge (Pezzillo Iacono et al., 2013; Popadiuk and Choo, 2006; Du Plessis, 2007). Accordingly, a literature stream supports the idea that knowledge is the common denominator for all

innovations (Johannessen et al., 2001; Mytelka and Smith, 2002). In particular, innovation is linked to complex mechanisms of knowledge distribution (Edquist, 1997) and can arise through different innovation modes. In this optic, innovation is neither research nor science and technology, but rather the application of knowledge (of all types) to achieve desired social and/or economic outcomes. This knowledge may be acquired through learning processes, external sources or experience, but it cannot be considered as an innovation until it is applied (Mytelka and Smith, 2002).

Fig. 2.4 shows how continuous innovation requires the simultaneous presence of three fundamental knowledge processes at the firm level: knowledge creation and absorption, knowledge integration and knowledge reconfiguration (Verona and Ravasi, 2003).

Fig. 2.4 - Innovation through knowledge processes



Source: own elaboration from Verona and Ravasi, 2003

The initial sparks for innovation often come from the dissemination of knowledge from within the firm (Ciliberti et al., 2016). Nonetheless, firms in isolation cannot create all knowledge needed to introduce innovation; they need to draw from external knowledge sources.

Research into innovation and the transmission of knowledge has increasingly focused on rapidly evolving collaboration within and across a number of industry sectors. A crucial implication in modern conceptualization of innovation lies in the recognition that multiples functions, actors and resources within and between firms' boundaries are necessary to transform innovative ideas into economically successful innovations. From a knowledge perspective, this leads to the recognition that successful innovation «does not depend exclusively on technological capabilities or market capabilities, but rather on knowledge integration efforts able to mobilize and combine a broad set of heterogeneous competences» (Sammarra and Biggiero, 2008, p. 804).

Given this, it is relevant to understand what are the knowledge channels used by firms and the relative importance that firms ascribe to these to access complementary or supplementary knowledge.

These premises pave the way to the concept of open innovation that replaces the previous model, known as the "closed" or "linear" model, which has become obsolete because internal knowledge sources, even if considerably important, are not sufficient in today's market conditions. This earlier model described the innovation process as a linear sequence of distinct stages or functional activities (design, production, commercialisation, marketing) (Rothwell, 1992). When adopting an open innovation approach, firms should not necessarily discontinue their internal

innovation activities, but they could put internal knowledge to better use in new ways by integrating it together with knowledge coming from external resources. The resource-based view of the firm supports the idea that benefits from combining new and existing knowledge are more likely to occur when based on complementarity rather than similarity (Harrison et al., 2001).

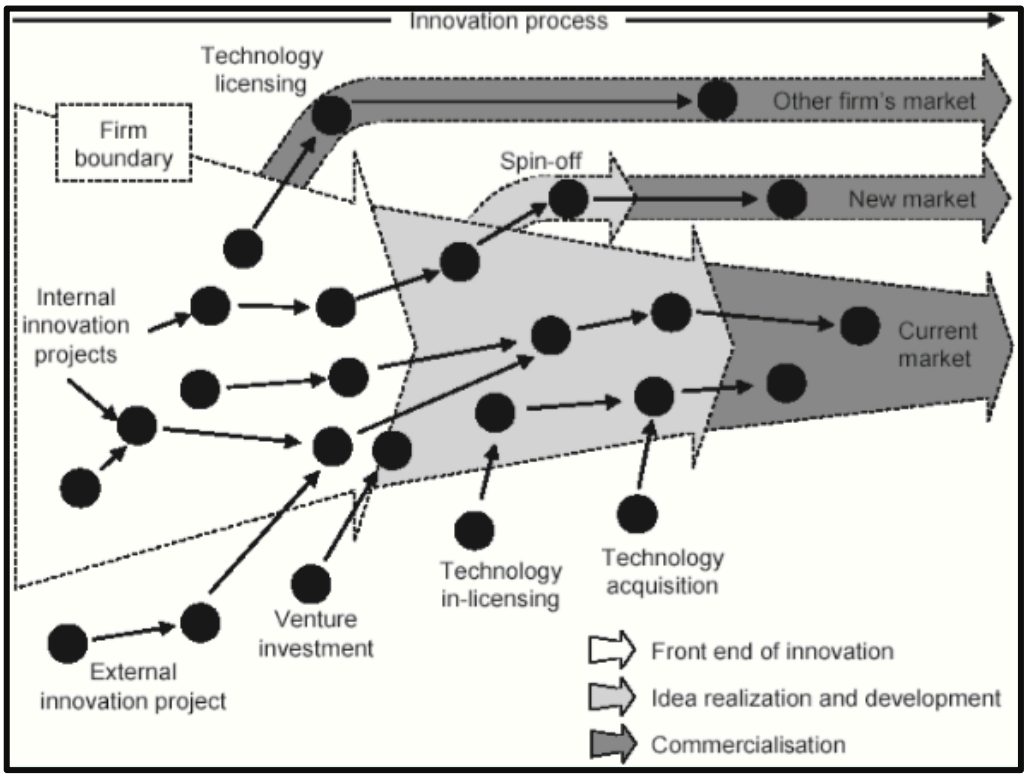
As depicted in the fig. 2.5, open innovation can occur at different stages of innovation, namely the *front end of innovation / idea generation* phase (discovering market opportunities, developing initial insights, basic and applied research), the *idea realisation or development* phase (developing a deeper conception of products or services) and the *commercialisation* phase (production, promotion and sales of a product or service).

The open innovation model is based on the assumption that firms can enhance their innovative performance by acquiring knowledge and competences from outside (Chesbrough, 2003; Chesbrough et al., 2006), and it also emphasis the importance of inter-firm cooperation (Belussi et al., 2010; Teirlinck and Spithoven, 2008).

Accordingly, Smith (2007) argued that knowledge-sourcing activities and inter-organizational relationships are important ways to improve the knowledge base, and to complement internal activities.

The open innovation paradigm relies extensively on external sources of knowledge in two stages: the “inbound, open innovation”, referring to the acquisition of and use of external knowledge internally; and the “outbound innovation”, referring to the external use of internal knowledge (Huizingh, 2011; Dahlander and Gann, 2010).

Fig. 2.5 – Open innovation picture



Source: own elaboration from Chesbrough, 2003

As Malerba (2002, p. 251) says, the «accessibility of knowledge which is external to the industry may be related to scientific and technological opportunities», and what is more, «the external environment may affect firms through scientific and technological knowledge developed in firms or non-firms organisations such as universities or research laboratories».

The nature of these relationships implies the need for firms to continuously search for bright sources of knowledge, which in turn might be incorporated into innovation (Köhler et al., 2012). Information and knowledge acquisition therefore allow firms to have a better vision of the market landscape, as well as to be open-minded and able to implement innovative products (Wei and Wang, 2011). The use of external

information can also create value for innovation efforts by reducing the possibility of market failure (Avermaete et al., 2004). Indeed, different sources of information (from universities and research institutes, consultants, suppliers, customers, etc.) are potentially complementary for generating knowledge that is useful for innovation (Tether and Tajar, 2008). As a result, Veugelers and Cassiman (2005) find that the collaboration between firms and external stakeholders is important for knowledge acquisition. Nevertheless, such collaborations most often occur for firms which already have the sufficient degree of absorptive capacity (Cohen and Levinthal, 1990; Zahra and George, 2002) needed to internalise information, assimilate it, and exploit it to produce innovations.

A number of prior studies has stressed the fundamental role of a firm's absorptive capacity (Cohen and Levinthal, 1990; Zahra and George, 2002; Escribano et al., 2009) and the existence of complementary assets (Teece, 1996; Teece et al., 1997) as crucial prerequisites for the success of open innovation. Absorvtive capacity, which is defined as «the ability of a firm to aknowledge the value of new external information, to assimilate it and apply it to its activities» (Cohen and Levinthal, 1990, p.128), makes the firms able to choose information resources vital for their future functioning (Fertő et al., 2016). At the micro-level, absorptive capacity is conceived to be a function of the firm's level of prior knowledge. It, therefore, reflects the stock of knowledge accumulated within the firm, embodied in skilled human resources and accrued through in-house learning efforts (Giuliani and Bell, 2005). Firms with higher absorptive capacities are more likely to establish linkages with external sources of knowledge. For this reason, absorptive capacity may be considered as the "heart of the open innovation" approach, playing a fundamental

role in scouting out, identifying, accessing and integrating external knowledge sources (Vanhaverbeke et al., 2012). A greater openess would allow for more rapid knowledge and skills acquisition coupled with the absorption of the capabilities needed to manage the innovation process (Todorova and Durisin, 2007).

Initially, the main focus of open innovation studies has been large, multinational enterprises (Chesbrough and Appleyard, 2007). However, the open innovation approach has also been widely adopted by smaller firms (Christenen et al., 2005). It is argued that small firms can benefit from opening up their internal boundaries by fostering partenership agreements with external actors (Brunswicker and Van de Vrande, 2014; Freel and Robson, 2016). Indeed, small firms achieve greater benefits than larger firms because they are more flexible and less bureaucratic (Bianchi et al., 2010).

Brunswicker and Van de Vrande (2014) in their study demonstrate that the use of external entities can be an inexpensive way for small firms willing to acquire novel ideas and knowledge, enhancing innovative capabilities. These external players range from customers/clients to public and private research centres, universities, competitors, external consultants, government institutions and other network partners (Theyel, 2013; Huizingh, 2011).

Consistent with the research scope of the current dissertation, the focus is on small firms operating in wine sector. The paradigm of open innovation seems of particular interest to the wine sector for several reasons (Fortuin and Omta, 2009; Presenza et al., 2016): 1) compared to other low-tech industries, the wine industry is signaling a growing need to boost innovation (Castellano and Khelladi, 2016); 2) empirical evidence suggests that, with respect to other sectors, agri-food firms (among which

wine firms) experience benefits rather than costs when they enter into relationships with a plethora of external actors (Enzing et al., 2011); 3) some specific features of the innovation pattern in these firms determine that considering only internal and closed innovation processes is a misleading indicator of the firm's innovation capacity (Capitanio et al., 2010); 4) as the wine industry is highly fragmented, wine firms view the sharing of information as a noteworthy way to improve their knowledge base and complement their internal activities (Dries et al., 2015); 5) the wine sector is characterized by actors with strong local roots, which have increased their activities by building networks of social capital. Such networks may be leveraged by small wine firms through the adoption of open innovation to develop and foster innovative practices. Tacit knowledge within a network of social capital can generate aggregated benefits, which enable rapid dissemination of best practices in an industry searching for operational efficiency and product quality. In this respect, a proper institutional framework is crucial as it allows actors to attract, create and disseminate information by spreading common cultural and social values that facilitate social interaction among different actors involved in knowledge dissemination (Cooke, 2004). Hence, important indicators of knowledge diffusion are the geographical proximity and the social interaction. The learning processes and knowledge dissemination within a network of social capital depend not only on tacit knowledge, but also on an increased codification of knowledge.

On the side production, technical change has been strong in wine industry and the key competitive asset of wine producers is the capacity to absorb and manage new techniques of production.

On these premises, as far as the external knowledge source is concerned, it should be

noted that small wine firms may activate intensive info exchanges with:

- *customers* (Presenza et al., 2016; Doloreux et al., 2013), for small wine firms, customers are key contributors to innovation practices, especially if they are able to contribute to product development processes due to their motivation and expertise. Today's customers are an ever-increasing source of wine wisdom, since they are aware and informed about the taste of wine, and its organoleptic characteristics. Always more of them attend wine education programs (*sommelier* courses) to discover the production "secrets" and to lose themselves in a profound hedonic experience. This new class of costumers is more educated than before and pays more attention to variety and also to some intagible features, such as history and authencity besides the intrinsic quality of wine. In this sense, consumers become real "wine ambassadors", being a fundamental source of new knowledge for wine firms. As a consequence, these latter ones should stimulate two-way dialogue with customers to explore new ideas or products since these interactions may lead to feedback on specific problems or anticipate customer needs;
- *local institutions* (Beebe et al., 2013), in the wine industry, the role of public institutions supplying public goods has not only been recognized, but is often given a noteworthy role. Their presence is fundamental for enhancing the recognition of the region, both internally and externally, above all with reference to the creation of a strong regional brand identity;
- *external consultants* (e.g. "*flying winemakers*") (Morrison and Rebellotti, 2017; Lenzi, 2013): in the wine industry the presence of qualified oenologists and agronomists have become necessary to produce high quality wines, and

several firms have hired external consultants (*flying winemakers*) to cope with the continous upgrading in wine production tecniques. The flying winemakers represent a vehicle of national and international transfer of both tacit and codified knowledge, enabling access to frontier knowledge on grape growing and wine making processes external, not only to the firm, but also to the region. These external oenologists work closely with internal agronomists and growers to introduce and experiment with new modes of growing, pruning, sanitizing, and watering grapes. These highly qualified professionals with university-level technical qualification in relevant subjects such as agronomy, biology, oenology, have a scientific knowledge of the wine making process, and can instruct firms about the experimentation of alternative methods and productions, and promote technical changes;

- *public and private research centres and/or universities* (Presenza et al., 2016): these can be extremely important sources for small wine firms due to the effort universities and research organizations exert in transferring specialist knowledge and technology. In general terms, both of them are viewed as discovery and invention hubs and sources of R&D.

As before mentioned, the open innovation approach grounds its roots in both external sources of knowledge and inter-firm cooperation. Making reference to this latter aspect, a literature stream aknowledges effective collaboration as a key ingredient for innovation (Varadarajan and Cunningham, 1995; Fensterseifer, 2007). In this optic, it is important to find partners that share similar mission and values, to allievate pressures on small firms of seeking funding, creating partnership and being

innovative all at the same time.

If the actors operating in the wine sector aim at consolidating their impact, sharing knowledge is a vital part of the collaborative process. Generally speaking, if a firm is very clear in defining its USP (unique selling proposition), then it would be easier to defend it and to be more open in collaborations.

These considerations introduce the notion of systemic innovation, which corresponds to the "type of innovation that only generates value if accompanied by complementary innovations. It opposes autonomous innovation, which can be developed independently of other innovations" (Takey and Carvalho, 2016, p.97). On this basis, there clearly emerges that systemic innovation is anything more than simply encouraging the exchange of technical and tacit knowledge (Storper and Venables, 2004), since it requires collaboration across organizational boundaries to yield the necessary synergies.

Concerning the wine sector, Beverland and Lockshin (2001) stress the importance for wine firms to form alliances with members of their sector. Other studies (Rasch, 2008; Wargenau and Che, 2006) underline the value of horizontal and vertical alliances between wine firms and other entities in their sorroundings. As a result, there seems to be evident that collaboration is particularly critical for small wine firms, as the large majority in many regions is small in size, and resources for needed improvements, including funding for marketing efforts are limited (Rasch, 2008).

In this direction, consistent with the literature on the subject, the main systemic innovations wine firms could implement concern with:

- *acquisition of technologies through cooperation agreements, acquisition of patents, licenses, etc*. (Bortoluzzi et al., 2015);

- *reciprocity in sharing know-how with competitors* (Dries et al., 2013; Presenza et al., 2016): know-how sharing has been recognized as crucial for innovation, and is seen as a determinant of the opportunities that small wine firms have for innovating;
- *being member of consortia or trade associations* (Pezzillo Iacono et al., 2016): every region has its own institutions: in Europe, the inter-professional bodies and the registered designation councils (e.g. different kinds of consortia, co-operatives), while in US the organization of clusters. This registered designation plays a key role in constructing a collective reputation, building a product range and setting price levels;
- *presentation of projects together with other local actors to get access to funding resources* (Contò et al., 2014).

2.5 The proposed theoretical model

From the above-mentioned theoretical foundations there clearly appears that, as innovation is such a complex process, it usually requires inputs from a range of both internal and external sources.

More in detail, with specific reference to the wine industry, on a hand, the more the sectors are diverse in terms of their respective resource competencies, the more they are forced to learn from through interaction in order to increase the opportunities for innovation (Gassmann and Zeschy, 2008; Enkel and Gassmann, 2010; Enkel and Bader, 2015); on the other hand, knowledge referred to internal (both technological and non-technological) activities is increasingly recognized as a powerful source of

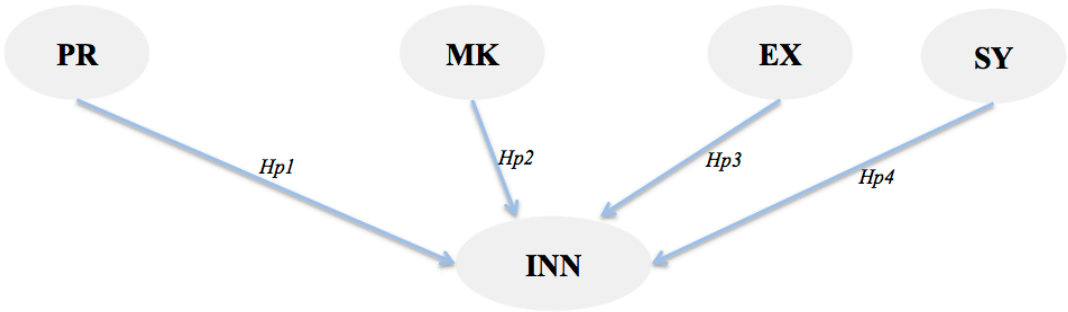
innovation.

As far as the understanding of innovation is concerned, scholars agree on the fact thet innovation is influenced by both internal and external factors that generally can be conceived as determinats, which could affect the innovativeness of a firm (Becheick et al., 2006) and the *milieu* in which they are embedded.

In this sense, there seems to be very interesting to understand how the above-listed innovation dimensions (product/process, marketing/organizational, external and systemic innovation) impact on the wine firms' perception to be innovative.

On this basis, the fig. 2.6 illustrates the theoretical model that considers each dimension impacting on the firm's perception to implement some kinds of innovation.

Fig. 2.6– The proposed theoretical framework



Source: own elaboration

Specifically, in order to answer to the RQ3, the current dissertation proposes the following hypotheses:

Hp1: PR has a significant effect on INN (Marcati et al., 2008; Walker et al., 2010);

Hp2: MK has a significant effect on INN (Gilinsky et al., 2008; O'Dwyer et al.,

2009);

Hp3: EX has a significant effect on INN (van Hemert et al. 2011; Frishammar and Åke Hörte, 2005);

Hp4: SY has a significant effect on INN (Varis and Littunen, 2010).

In the empirical section, this model will be further deepened and analysed through the application of a Structural Equation Modelling (SEM).

In order to have a more thorough picture of the world of wine, the next section will deal with the 'state of the art' of the globalization process affecting this sector, by particularly focusing on Italy, which is the leading country in terms of wine production. Than, the concept of *terroir* and wine as cultural and luxury product will be deeply investigated paying also particular attention to the developement of the 'wine tourism phenomenon' that plays a key role with reference to both marketing activities and systemic collaboration.

A general overview of the wine industry guarantees a better and more deep understanding of the different aspects characterizing this specific sector, sheding light on the importance to introduce innovative patterns, remaining at same time anchored to the traditional components and first of all to the *terroir* concept.

CHAPTER III

RECONCEPTUALIZING THE WORLD OF WINE

3.1 Wine and globalisation: an international perspective

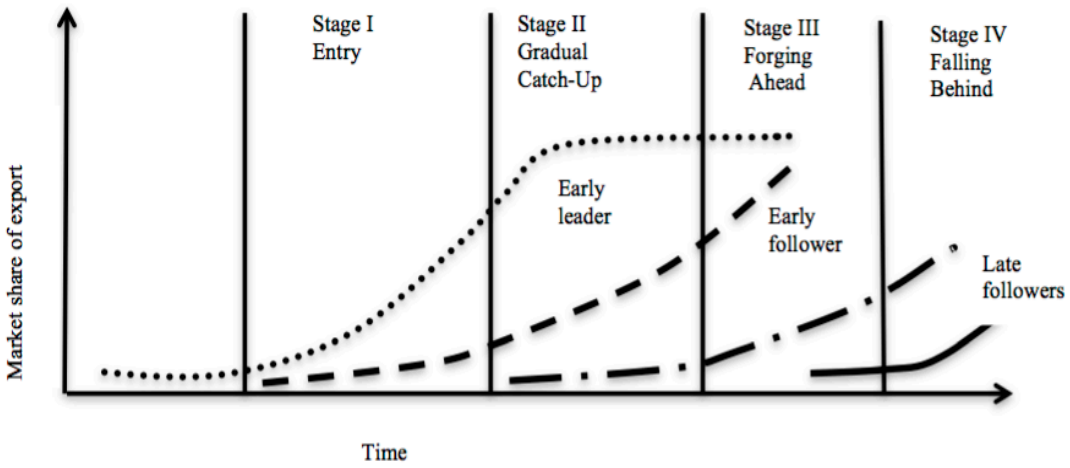
In the last two decades, the wine industry has undergone technological discontinuities and processes of structural change (Cusmano et al., 2010; Lenzi, 2013). The globalization phenomenon, together with a process of technological modernization, has spread worldwide bringing a rapid adoption of scientific practices and approaches for a traditional sector such as wine making.

Between the mid-1990s and the beginning of the new millennium, the wine industry was witness of a gradual *catch up* process that begun when latecomers, such as Australia and USA, followed by some emerging countries including Argentina, Chile and South Africa, took advantage of the changing needs of the international market. A quantitative transformation in demand, together with a qualitative shift of consumers' tastes, represented the major turning point in the world wine industry, which overall encouraged the rise of these countries (labelled as New World

countries). These ones experimented new pathways of technological modernization, product and marketing innovations, which were different from the established business models characterizing for a long time the Old World countries (the EU top producers, namely Italy, France, Spain and Germany).

Fig. 3.1 illustrates the different stages of the *catch up* cycles showing how the latecomers have progressively caught up with the incumbents via a *path-creating strategy* (Morrison and Rabelotti, 2014).

Fig. 3.1 – Catch-up cycles in the World Wine Industry



Source: Morrison and Rabellotti, 2014

Until the Nineties, the production and consumption of wine was relatively localized since the world wine industry was dominated by European top leaders (particularly, France and Italy). Nonotheless in this period some countries begun to pop up in the international wine arena.

The first catch up cycle started in the mid-1990s when early entrants, such as California (USA) and Australia gained significant market shares (Anderson and

Nelgen, 2011). These countries were rapidly followed by the entrance of the "early followers", such as Argentina, Chile and South Africa. Then, the last phase views the emergence of the Asian market (namely, China) and New Zealand.

Overall, as emerges from the graph 3.1, since 2000 the wine trade has grown significantly and its structure has experienced major changes (Mariani et al., 2012). Such changes have modified and are currently shaping the competive scenario of the wine market and are the basic elements for its future development.

Looking carefully at the graph 3.1, it is possible to note that in the time-span 2000-2015 world wine trade, in terms of both value and volume, grew significantly from 2000 to 2007, and recovered in 2010 after a decline in 2008-2009 due to the international economic crisis. Than, in most recent years, specifically from 2010 till 2015, the world wine industry has recorded an unrestrained growth. Indeed, in 2015 the global wine market (considered here as the total exports of all countries) reached a new peak: 104.3 million hectolitres (mhl) in terms of volume (an increase of 2 per cent in comparison with 2014) and €28.3 billion in terms of values (a rise of 10 per cent with respect to 2014) (OIV, 2016).

In spite of the entrance into the international market of the NW countries, the OW ones have been able to react to the challenges posed by the newcomers innovating along a new path, which seems to be aligned wih the current demand patterns.

More in detail, initially, the competitive advantage of newcomers was based not only on a cost leadership strategy, but also on some innovation practices introduced in both product and process wine making (Giuliani et al., 2011). The successful strategy adopted by NW countries relied on a mix of factors: domestic scientific and

technological capability accumulation, openness and access to external knowledge, strong linkages between research centres and wine firms.

Successively, the new paradigm in the wine industry has also impacted on the industry knowledge base and on the relevant industry actors (universities, public institutions and firms) among OW countries. Indeed, in this specific sector, the incumbents have been able to sustain their long-lasting leadership.

Graph 3.1 – Evolution in wine trade in volume and value, 2000-2015

Source: own elaboration from OIV, 2016

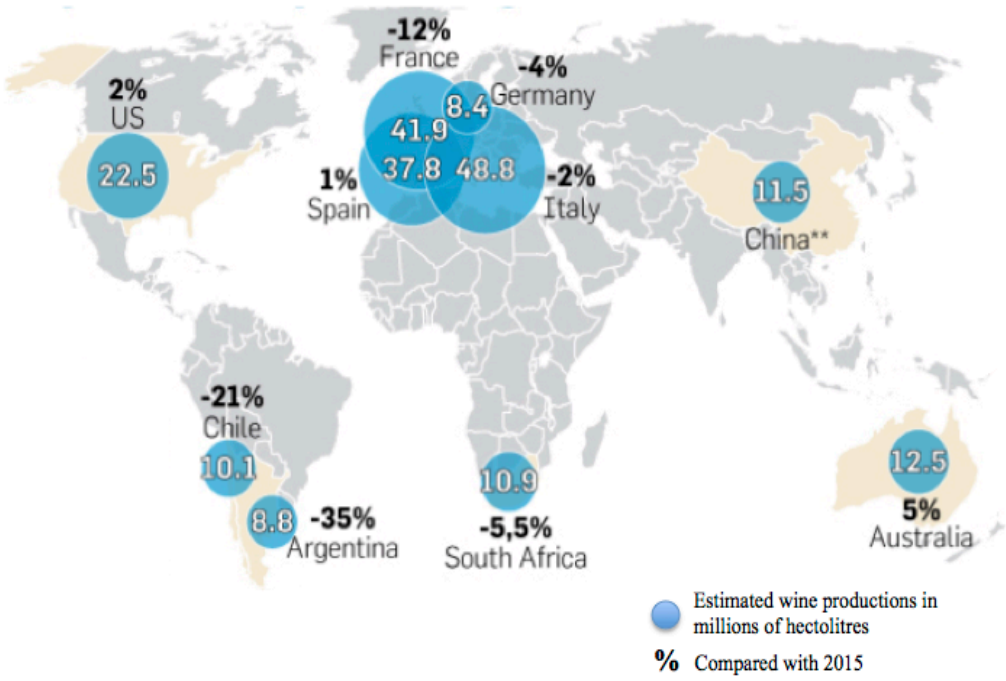
Indeed, as shown in the fig. 3.2 Italy remains by far the leading world country with a global production of almost 50 mlh. It follows closely behind France with about 42 mlh and Spain with about 40 mlh. Also wine trade in 2015 is largely dominated by Spain, Italy and France representing together more than half of the exports in terms of value and 56 per cent of the world market in terms of volume (OIV, 2016).

The table 3.1 analytically reports the figures of the top-ten wine producing countries showing that as for the NW wine producers, despite a slight decline in volume, China

continued its climb up the ladder, moving into the sixth position, at least partly due to the poor harvests in South America that significantly reduced production in Chile and Argentina (these ones recorded a decrease in production of respectively 21 and 35 percentage points compared to the previous year).

Among the NW countries, an even higher level of production was recorded in USA (22.5 mhl) and Australia (12.5 mhl).

Fig. 3.2 – Top 10 Wine producing countries in 2016



Source: own elaboration from OIV, 2016

Table 3.1 – World Wine Production, 2011-2016

	mhl	2011	2012	2013	2014	2015	Forecast 2016*
1	Italy	42.8	45.6	54.0	44.2	50.0	48.8
2	France	50.8	41.5	42.1	46.5	47.4	41.9
3	Spain	33.4	31.1	45.3	39.5	37.3	37.8
4	USA	19.1	21.7	23.6	23.7	22.1	22.5
5	Argentina	15.5	11.8	15.0	15.2	13.4	8.8
6	Australia	11.2	12.3	12.3	11.9	11.9	12.5
7	China	13.2	13.8	11.1	11.1	11.5	11.5
8	South Africa	9.7	10.6	11.0	11.5	11.2	10.5
9	Chile	10.5	12.6	12.8	10.5	12.9	10.1
10	Germany	9.1	9.0	8.4	9.2	8.8	8.4
	Rest of World	49.7	57	53.4	44.7	47.5	46.2
	OIV World Total	268	258	289	271	274	259

* Include data/comments recieved by October, 2016
Source: own elaboration from OIV, 2016

Furthermore, on the basis of these statistics, there clearly appears that Old World countries (those ones within Europe) produced more than 40 per cent of the global wine production. In particular, *made in Italy* wine production has achieved the global leadership in both 2015 and 2016 with about 50 million hectolitres. This total production comes for 40% from Denomination of Origin Controlled (DOC) and Denomination of Origin Controlled and Guaranteed (DOCG) wines[3], for 30% from Protected Geographic Indication (IGP) wines and for the remaining 30% from table wines.

In addition, in 2016 the Italian wine sector generated a turnover of about €10 billion and provided employment opportunities to 1,3 million people (Istat, 2017).

[3] The EU law allows Italian producers to continue to use both DOC and DOCG terms, but the EU oficially considers both to be at the same level of Protected Designation of Origin (DOP).

In order to have a more complete picture of the leading wine producer, the next paragraph will deeply analyze the dynamics governing the Italian wine market.

3.1.1. A focus on Italy

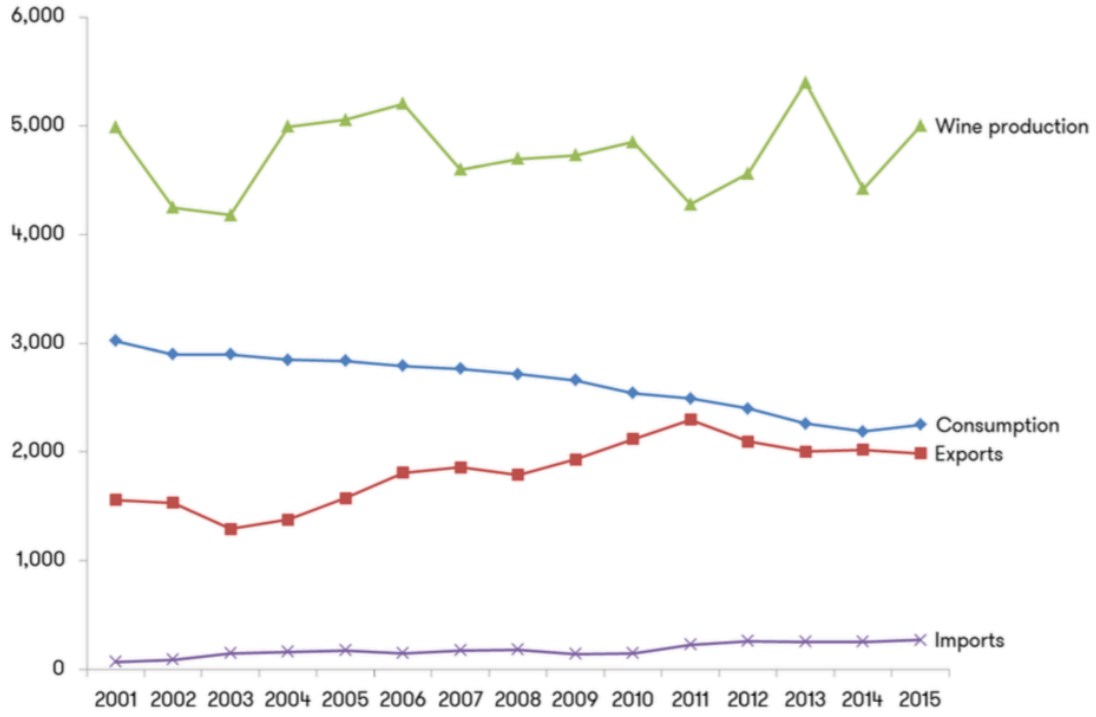
Italy is a country with a long winemaking tradition. The history of winemaking in Italy stretches thousands of years, as the ancient Romans practiced commercial winemaking and large-scale grape growing. Surely, this country is ideal for wine production because of its territorial conformation and favourable mild climate (*terroir*), but what is important to point out is that starting from the late nineties the Italian wine industry has experienced a qualitative growth in production: the sector has been able to effectively answer to a transformation of the geography of consumption (Pomarici et al., 2012). Indeed, since the early 2000s the Italian wine firms have embraced the new market model of production and shifted away from the traditional supplier-driven approach that characterized the industry in the past (Morrison and Rabellotti, 2014). This transformation implied that some non-competitive wine farmers abandoned the production and some grape growers turned themselves into professional and highly qualified entrepreneurs. These changes allowed Italian wine market to be aligned with the international strandards of production imposed by the global wine arena.

As emerges from graph 3.2, between 2001 and 2015, Italian wine production averaged 4.7 billion litres, reaching a peak of 5.4 billion litres in 2013. With domestic consumption in decline, Italian wine producers have looked at overseas markets to increase demand. In the decade till 2011, Italian wine exports climbed

from 1.6 billion litres to 2.5 billion litres. Nowadays, exports account for around 40 per cent of Italian wine production.

The top five markets for Italian exports by volume are: Germany (541 million litres), USA (319 million litres), UK (305 million litres), France (92 million litres) and Canada (72 million litres). These five markets account for two-thirds of Italian exports.

Graph 3.2 – Italian wine sector key trends (million litres)



Source: own elaboration from OIV, Istat, Euromonitor International, 2016

Among the factors that have allowed OW producers (among which, Italy) to not lose their market leadership there is undoubetely the concept of *terroir*. As stated by a stream of literature, *terroir* confers to OW producers a unique competitive advantage

over NW countries (Vaudour, 2002; Barham, 2003). In order to reinforce such competitive factor wine producing countries, along with the EU Commission, have introduced several schemes and legislation protecting the place of origin of wines and regulating its production in many aspects ranging from oenological practices and labelling of wine. Despite these restrictions, most of the OW wine firms, in line with the regulatory framework, have introduced some innovation practices that allowed them to keep up with the latecomers and to sustain their enduring leadership.

Hence, the mix between *terroir* and innovation has been the winning formula, thanks to which OW countries countinue to maninatin the highest standards and occupy top positions in the world rankings.

The performance of the Italian wine Industry is an illustrative example of how a traditional OW producer has reacted successfully to the challenges posed by NW countries.

Looking closer at the national level, one of the most distinctive features characterizing the Italian wine industry is the extreme heterogeneity of firms. Specifically, average land area size and production volume are quite small: 74 per cent of growers have no more than two acres of vineyerads and 81 per cent produce less than 100 hl of wine per year (Presenza et al., 2016).

Moreover, most wine producers are SMEs, usually family-owned-and-managed (Chirico and Nordqvist, 2010; Cusmano et al., 2010). These family firms are characterized by a strong relationship between family and wine as a product, this latter representing a set of family values, symbols and traditions rooted in the territory (Gallucci and Nave, 2012).

To sum up, the sector is dominated by two categories of firms: on one side, micro-firms with fewer than 10 employees and central managerial role played by a single entrepreneur and, on the other side, a few larger family firms with more complex and formalized organizations and with a stronger ability to define competitive strategies (Presenza et al., 2016).

Looking at a regional mapping, Italy has 20 key wine producing regions. As illustrated in the table 3.2, a large portion of the Italian countryside is dedicated to the production of wines.

Table 3.2 – Italian wine regions profile, 2015

Region	Wine Production (million litres)	White (%)	Red/Rose (%)	DOP (%)	IGP (%)	Other (%)
Veneto	973	75	25	57	35	8
Puglia	793	46	54	8	31	61
Emilia Romagna	738	51	49	19	39	41
Sicilia	563	55	45	25	48	28
Abruzzo	299	36	64	35	12	54
Toscana	283	13	87	62	27	10
Piemonte	247	43	57	85	0	15
Friuli-Venezia-Giulia	187	77	23	35	39	27
Lazio	170	73	27	50	26	24
Campania	161	47	53	17	12	71
Lombardia	141	44	56	56	33	12
Tentino-Alto-Adige	123	71	29	89	10	0
Marche	96	53	47	36	18	46
Sardegna	79	47	53	70	14	17
Umbria	77	49	51	46	41	13
Calabria	40	21	79	17	10	73
Molise	23	37	63	8	18	74
Basilicata	9	17	83	35	31	34

Liguria	8	68	32	55	30	15
Valle d'Aosta	1	35	65	85	0	15
Total	5,011	54	46	38	30	32

Source: Istat, 2016

Of particular interest is the case of Campania Region, whose wine industry is esponentially growing both for volumes (+10%) and value (+8) (Istat, 2016). These figures reveal a top-notch performance compared to the national average that records a downturn in volume (-1,5%) and an increase of only 5 percentage points in value.

Among the Italian wine regions, above all the Campania Region owes its worldwide reputation to the favourable conditions of soil and climate, along with a secular tradition in wine-growing and the recent progresses achieved in the innovative production techniques (Riviezzo et al., 2017). Hence, even if it is not one of the most productive regions (as emerges from table 3.2, Campania occupies the tenth position in terms of wine production), with respect to the national trend, its figures reveal an ever-increasing growth, recording year-by-year positive performances. More in detail, in the last thirty-year period in Campania Region there has been a gradual reduction of the utilised agricultural area dedicated to viticulture (above all in te provinces of Naples and Salerno). However, in spite of this overall reduction, the production of DOP wines has been steadily growing over the last seven years. The figures for 2016 reveal an encouranging increase; indeed, the production of DOP wines (in hectolitres) in 2016 accounted for around 188,000 compared to 174,000 in 2012 and 185,000 in 2015. As a consequence, although the overall utilised agricultural area has been largely reduced, in the last few years the production of fine and high quality wines is recording a positive trend (Vinitaly, 2017). In this sense, for the Campania Region the growth opportunities are very wide.

In conclusion, the importance gained by the link existing between a wine and its place of origin determines a renewed interest towards the concept of *terroir*.

3.2 Wine as a *glocal* resource: the concept of *terroir*

Wine making processes are constantly changing and responding to globalization dynamics. In "today's transnational interconnectedness, the local cannot escape global implications, nor can the global manage without its local articulation" (Cwiertka and Walraven, 2002, p.2). In an era of global competition new forms of local cultural expressions and identities emerge. In this regard, over recent years, place has come to play a central role in defining a unique character and quality of typical products as a part of response to globalization (Gade, 2004). Some authors (Robertson and Langlois, 1995; Johansson, 2000; Svensson, 2001) have introduced the term "glocalisation" to refer to the needs for a global strategy to be aware of the local adaptations of business activities. In such scenario local tradition, conceived as the accumulation of know-how, "savoir-faire", symbolic and cultural content, and micro-institutions of practice handed down across generations contributing to shape the identity of individuals, firms, and territories (Vaudour, 2002; Hibbert and Huxham, 2010) becomes a real strategic factor. Specifically, following the resource-based view of the firm (Barney, 1991), local tradition can be seen as a distinctive and unique resource. Indeed, the embedded nature of tradition makes its imitation more difficult, thus contributing to its distinctiveness and rarity.

Accordingly, firms with a high level of absorptive capacity are more likely to leverage a specific tradition and capture innovation coming from outside.

In line with this view, OW countries have renewed their fortunes introducing a successful mixed strategy based on both tradition and innovation. This is the case of Italy, which has been successfull in renewing its competencies above all in top quality wines, being able to innovate, while keeping the industry well rooted in the local *terroir*.

The concept of *terroir* was introduced for the first time in France in the middle of the 19th century. Nowadays, this term is still largely used to indicate the link between products, especially agricultural ones, to a specific place (Spielmann and Gélinas-Chebat, 2012). Over the last years, a number of studies in the broad field of wine research contributed to uncover the multiple dimensions of the *terroir* concept, including not only the environmental conditions in which grapes are grown, but also all the human, cultural and historical factors, which directly or indirectly play an influence on the characteristics of "*terroir* wines" (Wilson, 1998; Vaudour, 2002; Barham, 2003; Charters, 2006; Spielmann and Charters, 2013; Riviezzo et al., 2017). As a result of the previous studies, *terroir* can be defined as a concept that encapsulates a wide range of factors, from the particular climatic and micro-climatic conditions, to soils, underlying geology, topography, aspect and even landscape, as well as the cultural and historical dimensions of winemaking traditions and techniques that imbue unique characteristics on the wine that is produced in a certain place. Such definition embraces many facets of the notion of *terroir:* it goes far beyond the physical environment as it also refers to social and cultural aspects emerging from the human intervention required to express the quality of a specific place (Spielmann and Gélinas-Chebat, 2012). In particular, Barham (2003) argues that the concept of *terroir* focuses discussion on how old is made new and to what

extent history is used to contribute to this process. In their recent study, Moulard et al. (2015) show that the concept of *terroir* relies on a more specific and holistic definition of place of origin, affecting consumers' perceptions of a wine and their willingness to pay for it. In this direction, very interesting is also the study made by Spielmann and Charters (2013), which empirically tested the effects of *terroir* on quality perceptions, satisfactions, and purchase intent of different categories of consumer and found three diffent groups: product authenticity (linked to the essence of *terroir* products and its originality); institutional authenticity (associated with the legal regulatory framework and protection of *terroir* products); internalized authenticity (linked to consumers' subjective perceptions of wines from a specific *terroir*).

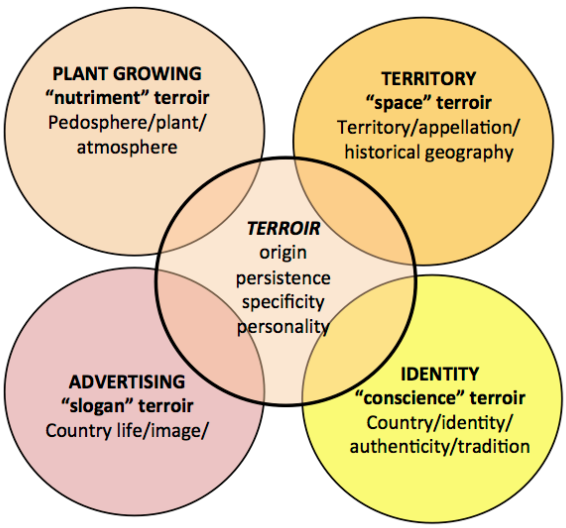
Generally, consumers expect wine from a particular region to possess unique qualities that differentiate it from other wines of the same varietal from other regions. Unlike other commodities, the region of production, together with the artistic reputation of the producer are key elements in the perceived value of wine (Bisson et al., 2002).

The multifaceted nature of *terroir* is evident in a relevant amount of studies that consider this concept as the result of the interactions taking place among different factors, not always derived from the human intervention. In this optic, *terroir* can be associated with one of the several expressions of the concept of cultural heritage (Demossier, 2011; Kurin, 2004). Indeed, it can be considered as an intangible asset handed down across generations, which make up the cultural heritage constantly recreated by local communities (Loulanski, 2006). In this regard, a stream of research focuses on the relationship between labels of origin and *terroir*, drawing

attention on the legal protection mechanisms available for wine produced in specific places (Barham, 2003). So, labels of origin such as the *Appellation d'Origine Controlée* (AOC) system in France or the *Protected Designation of Origin* (DOP) in Italy appear as an application of the notion of *terroir*, aimed to not only guarantee and communicate the traceability of the products, but also to promote innovative forms of rural development (Riviezzo et al., 2017). *Terroir* is about protection, but it is also a tool to engage constructively with a global market and its intrinsic manifestations (Demossier, 2010).

To sum up, the fig. 3.3 illustrates the different dimensions associated with the notion of *terroir*. There appears that uniqueness, origin, persistence, specificity and personality are the heart of *terroir* concept, which includes the facets of "nutriment", "space", "slogan" and "conscience" (Vaudour, 2002).

Fig. 3.3 – The multifaceted concept of *terroir*



Source: own elaboration from from Vaudour, 2002

Overall, the multidimensional nature of the *terroir* concept has been widely described in a number of academic contributions highlighting the interdependence of both environmental and human elements in the costruction of a territorial branding strategy (Charters and Spielmann, 2014). This reflects the idea that a territory offering a product, which for environmental and socio-historical reasons is irreproducible elsewhere, acts as a brand and must be managed as such.

Specifically, the theme of regional wine brand image is becoming increasingly important, since consumers, in purchasing a specific wine, express also a preference for the region of origin (Contò et al., 2014). This is seen as a quality cue of the whole product, with each region having its own oenological tradition, heritage culture and history (Santini and Cavicchi, 2011). In this sense, wine is perceived as both an expression of the culture of a territory and a *reservoir* of traditions anchored to the past.

3.3 Wine as a cultural product

Today's wine firms are quality-based and differentiation-focussed, and are willing to implement accurate strategic marketing positioning tactics. This need is enhanced consequent to their connection with their regions of origin, both economically and culturally, and the large spectrum of actors involved in the local area. The necessity to adopt a suitable marketing strategy is further accentuated due to the shifting consumer behaviour that transcends the demand of simple nutritional needs to satisfy higher-order needs that associate products, such as wine with lifestyle choices,

cultural connotations and underlying personal motivators (Thrassou and Vrontis, 2009). As a consequence, consumers turn these needs into the demand for increasingly differentiated products, higher quality, safety and information, greater value, and a "soft" attachment to regional cultures and anthropomorphic notions.

Particularly in "culture goods" industries, such as that of wine, regional identity performs a pivotal role. The creation of a regional identity is crucial because wine has two manifestations: as a commodity and as a premium product. In this second meaning, wine is what Scott (2004) defines a cultural product. In this case, place conveys more than just information, but also a mental picture (Beebe et al., 2013).

Generally speaking, wine producing methods and wines have long been associated with cultural and heritage endeaours (Peters, 1997; Hall et al., 2000; Williams and Kelly, 2001). Asero and Patti (2009) pinpoint the importance of a typical product, such as wine, as the major attraction of a territory. They state that wine not only strongly refers to the region where it is produced, but also represents a geographic area, its cultural heritage, traditions and identity for the local community. In this direction, most rural destinations are seeking to position themselves and become clearly visible on the wine "map" (Alonso, 2013). In more recent years, some wine regions seem to have realised the importance of their heritage, and have consequently presented their candidacy to be granted as "UNESCO World Heritage Sites". The need to apply for UNESCO recognition offers an insight of the strength of a traditional model of *terroir* amongst intellectual and cultural *elites* (Demossier, 2011). While *terroir* remains the winning formula at local, national and global levels, the campaign for UNESCO recognition introduces a new set of values and meanings,

which ensure that the heritage factor will add further value to the place and the product *per sé*.

The close relationship between wine and local cultural heritage is also due to the fact that wine is the subject of many legends and production "secrets"; wine tasting adds to this aura of mistery with its esoteric vocabulary describing, under bizarre names, perfumes and appearance of wine (Ginsburgh et al., 2013). In this sense, wine incorporates the culture and character of the local community, landscapes and habitat (Poitras and Getz, 2006).

Another interpretation of wine as cultural product derives from the association between wine and cultural/artistic *phenomena*. Indeed, wine has long been considered an art form. In 1880, the Scottish poet Robert Louis Stevenson coined the term 'bottled poetry' to describe the quest for perfection by wine producers. In the 1970s, Robert Mondavi (the first one to establish a winery with a vision to create Napa Valley wines that would stand in the company of the world's finest) defined wine as a "liquid art". Specifically, he conceived the winemaking process as an art, and the final output (the fine wine) as a cultural combination of emotions, creativity and *savoir-faire*. According to this vision, the winemaking process is an art, or better, a winemaker's handicraft, full of technical and *savoir-faire* skills (Mouret, 1999). In a more recent definition, winemaking process and viticulture tecniques are considered creative activities (Fischer and Gil-Alana, 2009).

Of course, what distinguishes wine from other cultural and artistic *phenomena* is that it relies largely on the humble sense of taste and smell. In addition, it is characterized by ephemerality: the bottle in the cellar may last decades, but not centuries. This

makes wine very different from most artforms down the centuries, which have aimed at long-lastingness (Berthon et al., 2009; Harlan, 2016).

However, by taking into consideration the demand side, consumers are not only influenced by culture, but also by the way in which they think and perceive wine.

3.4 Wine as a luxury product: a hedonic view

Nowadays, globalization together with the rapid access to information has resulted in a more knowledgeable and empowered consumer with a more sophisticated understanding of product value and a discriminating demand for quality. Hence, a shift in consumer values has placed a great emphasis on consumers searching for luxury brand experiences.

Generally, studies on luxury and premium wines have simply differentiated two categories according to the price (Reyneke et al., 2011; Beverland, 2005; Lockshin and Corsi, 2012; Benfratello et al., 2009; Anderson and Nelgen, 2011). These categories refer to basic (or non-premium), less expensive wines with essential quality characteristics; and luxury (or premium), more expensive wines with complex quality attributes and high-value image. While variables such as authenticity and regionality are recognized as indicators of luxury wine, the academic contributions on consumer perception of what constitutes a luxury wine brand are increasingly growing (Berthon et al., 2009; Dubois et al., 2001; Wolf et al., 2016; Stiehler et al., 2016; Harlan, 2016). In this direction, studies on luxury brands represent a suitable starting point in conceptualizing luxury wines.

Miller and Mills (2012), Kapferer and Bastien (2009), and Shukla and Purani (2012) describe luxury as old lux, with hedonistic motivators. Beverland (2005) and Preece (2015) consider luxury products as tangible manifestation of authenticity, whereas other scholars define luxury not by the tangible aspects of a product but by the individual experience of consuming it (Atwal and Williams, 2017; Ueacharoenkit and Cohen, 2011). In line with this last stream of research, Dubois et al., (2001) define luxury products as those characterized by a combination of six dimensions: high price (expensive, elite and premium price), excellent quality (exceptional ingredients, components, considered to be made with expertise), scarcity and uniqueness (restricted distribution, limited number), aesthetics (considered to be pieces of art), heritage and personal history (long history, tradition), and superflousness (non-functional). These dimensions are present also in wine as a product, so that it can be considered as a category of the luxury goods market (Dollet et al., 2010).

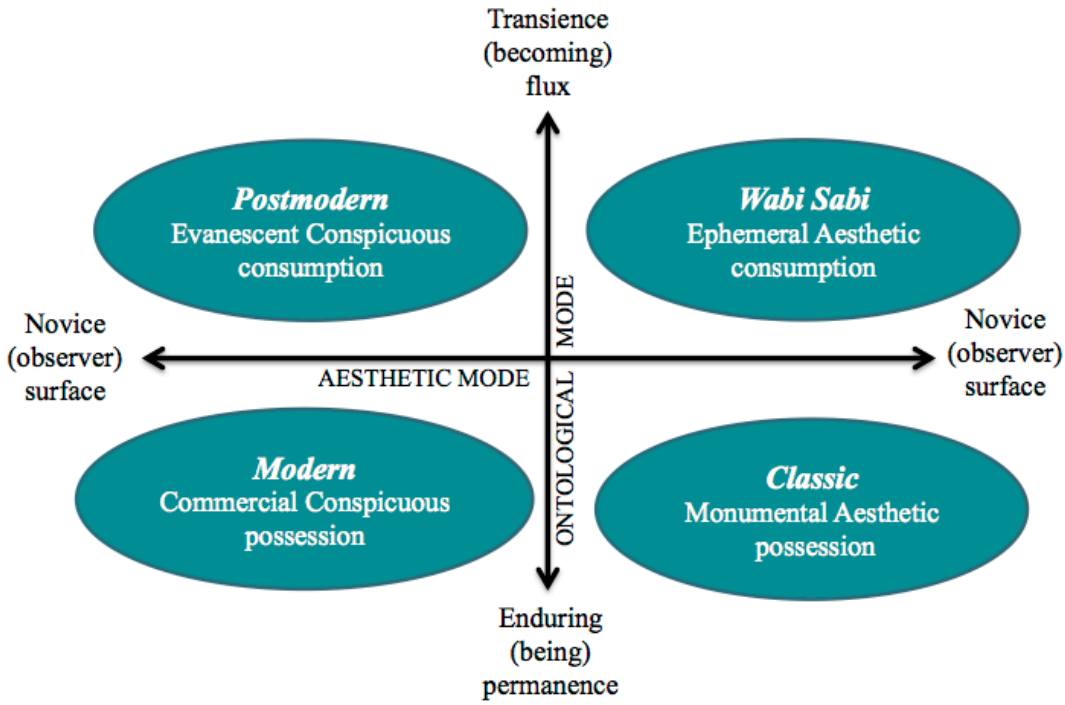
By incorporating the works of Martin Heidegger's theory of art and Alfred North Whitehead's philosophy, Berthon et al. (2009) suggest a conceptual model, according to which luxury products may be differentiated along the dimensions of aesthetics and ontology that relate respectively to perception and being (see fig. 3.4). Aesthetics is defined as «a set of principles concerned with the nature and appreciation of beauty» (Stiehler et al., 2016), or «the branch of philosophy that deals with art and beauty» (Harlan, 2016). One way of thinking about aesthetics starts with the definition of the artistic urge as something fundamentally human. Scruton (2007, p. 235) defines the core of the artistic urge as «the creation of an object of interest, whose meaning lies in its appearance, and whose appareance is

enjoyed for its meaning». From these cosiderations, there clearly emerges that in the aesthetic economy era, the consumer's perceptions of luxury is rooted in an individual's knowledge, appreciation, tastes and feelings toward a luxury brand. Through the aesthetic dimension, it is possible to distinguish between the luxury brand expert or educated enthusiast and the novice or the uninformed luxury brand consumer (Berthon et al., 2009).

Ontology relates to "the branch of metaphysics dealing with the nature of being" and is permanent or in flux. Through the ontology dimension, it is possible to distinguish between consumers that perceive luxury to be enduring or transient.

The combined dimensions of aesthetics and ontology allow for the identification of four modes of luxury (see fig. 3.4).

Fig. 3.4 – The aesthetics and ontology framework



Source: Berthon et al., 2009

The *modern* mode is positioned on the enduring end of the ontological dimension, and at the aesthetic level, it represents a novice. This means that consumers in this mode perceive luxury brands as durable and they have little knowledge about the product. Consumers of luxury wines can be depicted as consumers who purchase them to convey their status but would keep the wine as opposed to drinking it.

The *classic* mode is positioned as enduring on the ontological side and as expert on the aesthetic side. In this mode, consumers perceive luxury as lasting, but, compared to the previous modern mode, here consumers can count on a higher level of knowledge. Luxury wine consumers take pleasure in possessing the wine as a symbol of beauty and art and are pleased to keep the wine.

The *postmodern* mode is positioned as a novice on the aesthetic side, but as transient along the ontology dimension. This means that consumers view luxury as temporary and the novice levels also suggests that limited expertise is involved. In such case, luxury wine consumers are purely driven by status, and their poor knowledge results in a lack of appreciation of the artistic qualities of the wine. Hence, this category of consumers would consume luxury wine, but will also make sure that others see them consuming it.

The *wabi-sabi* mode is positioned along the ontology dimension as the postmodern mode, but on the aesthetic side it is positioned as an expert with high levels of knowledge. The consumers belonging to this category are described using a Japanese term “wabi-sabi” that stands for a situation “where impermanence, incompleteness, and imperfection of life is raised to the highest form of art” (Berthon et al., 2009, p.

53). Luxury wine consumers in this mode consume the wine, but will celebrate its consumption for its beauty and quality, being mindful of every sip.

The typology of luxury developed by Berthon et al. (2009) offers a suitable starting point for understanding luxury wine.

Basically, the features attributed to luxury in general apply also to luxury wine; however, when conceptualizing luxury wine, many additional attributes are used as identifying markers (Wolf et al., 2016). For example, the role of region of origin in wine marketing and branding is an important attribute for luxury wine, whereby the stronger the regional tie and the longer the history of wine growing in the region, the more the wine produced in that region is perceived to be luxury (Lockshin and Corsi, 2012; Sutanonpaiboon and Atkin, 2012; Johnson and Bruwer, 2007; Moulard et al., 2015). Moreover, wine is widely conceived to be a beverage associated with the socio-cultural aspects of lifestyle. As such, the consumer's relationship with wine is based on an acquired need. If wine product is thought in this optic, then its consumption can to some extent be regarded as a hedonic experience. More precisely, it can rely on «those facets of consumer behaviour that relate to the multisensory, fantasy and emotive aspects of one's experience with products» (Hirshman and Holbrook, 1982, p.92). A hedonic consumption experience perspective is therefore particularly appropriate when considering the consumption of luxury and iconic wines (Williams and Atwal, 2012). As a consequence, for the luxury wine industry, symbolic identity is of central importance for attracting consumers in the region of origin (Beverland, 2005).

3.5 From wine production to wine experience

Due to its intrinsic attributes, wine is a special product, since its success is strictly linked to the wine firms' ability to deliver delightful experiences for the consumers (Dell'Era and Bellini, 2009). Specifically, the consumers' need to immerse themselves into a different context meets in turn the need to nurture and feed themselves: a self-proof of their conscience and worth that creates change (Pine and Gilmore, 2000).

The modern approach to wine production took off in the eighties (Filiputti, 1997), giving birth to a revolution that radically transformed the concept of wine. Indeed, the millenary concept of "wine as food" has been successfully replaced by the current idea of "wine as discovery", a source of learning, emotion and experience.

In line with the view of wine as a cultural and experiential product, and in contrast to the globalization forces, a new experiential lifestyle has led to an increase in consumption of traditional and local products. As mentioned before (see par. 3.3), there is renewed enthusiasm for products that are perceived to be traditional (Sims, 2009), as part of a wider desire for authentic experiences. Local products are conceived to be expression of authenticity and symbols of the place and culture of a destination. Hence, they are able to connect consumers to the region and its perceived culture, heritage and identity (Contò et al., 2014). Undoubetely, in the last years, traditional and local products have come back into fashion (Alonso and Northcote 2009). There are a few definitions in the literature of the concept of traditional products. According to Bertozzi (1998) a traditional product is a representation of a group and belongs to a defined space. It is part of a culture that

implies the cooperation of the different actors operating in that territory. Jordana (2000) defines as traditional a product that must be linked to a territory and it must also be part of a blend of traditions, which will ensure its continuity over time. Kühne et al. (2010) views a traditional product as that frequently consumed or associated with specific celebrations and/or seasons, normally transmitted from one generation to another, distinguished and known because of its sensory properties and associated to a certain local area, region or country.

In the light of these definitions, wine can *tout court* be considered as a cultural and traditional product, since it contains a strong reference to the territory in which it is produced. As a consequence, considering wine-producing regions as simply places for the production of a mere commodity misses the dynamic of identity formation and regional brand reputation. More specifically, wine represents a fusion of unique traditions and etiquette (Harrington, 2006). The strong relationship between wine firms and local communities can build *nostalgia* for local wine production and can so strengthen traditional values (Sheridan et al., 2009). This appears to be vital for preserving the local wine culture and tradition by making winery ownership and work well-regarded by the local community. Furthermore, by considering wine not as a simple commodity, but as a traditional product with great emphasis on local culture allow consumers to live a "wine experience" that is holistic and multidimensional in nature (Alant and Bruwer, 2004).

On these bases, wine assumes an important economic function that relates to the experience of visiting the winery and experiencing a lifestyle (Brunori and Rossi, 2000). These are economic phenomena nearly as important as the wine production and exports, and they assist in establishing the identity of the wine region (Beebe et

al., 2013). As a result, this latter assumes a twofold function: (1) as producer of an alcoholic beverage and (2) the location of a lived experience.

The marriage of wine production and wine experience finds its *raison d'être* in the wine tourism phenomenon that brings together these two aspects, which are located at opposite ends of the wine industry spectrum (Carlsen, 2004). The concept of wine tourism provides a tangible way to address a «perceived need to retain or attract people in rural areas, maintain aspects of "traditional" rural lifestyles and agricultural production, and conserve the rural landscape» (Mitchell and Hall, 2006, p.315).

3.5.1 The wine tourism phenomenon

Wine industries and tourism are increasingly identified as natural symbiotic partners and this relationship is embraced in the term "wine tourism" (Fraser and Alonso, 2006). This one can be defined in terms of «who travels to wineries and what the wine tourists are experiencing at these destinations» (Byrd et al., 2016, p. 20). In this view, someone who engages in wine tourism is rarely interested simply in wine tasting, but seeks for a total tourism experience, which offers a "bundle of benefits" (Charters and Ali-Knight, 2002). Such benefits include the rural landscape and the appealing environment, exploration, socialising, hospitality, festivals, and learning about wine.

Festa et al. (2015) state that wine tourism is more than just a simple visit to cellars and vineyards, since it culminates in a series of unique experiences, including natural landscape and artistic beauties, atmosphere, culture and tradition of a place, wine and local food. According to Asero and Patti (2011), wine tourism represents a clear

example of a tourism experience created around a typical intensive product (TIP). It has been often promoted under the impulse of 'neo-rural' ethos, which means new rural entrepreneurship, new rural lifestyle, new tourist activities, culture of hospitality and sustainability.

All these definitions reflect the concept of *terroir,* here intended as the unique combination of the physical, cultural and natural environment that gives each region its distinctive tourist appeal.

Surely, authenticity, local culture and gastronomy are closely linked to wine tourism. This leads to recognize the importance that the regional destination assumes in the consumption of wine tourism (Famularo et al., 2010; Bruwer, 2014; Byrd et al., 2016). This consumption occurs in the rural countryside where agriculture is normally practised, including vineyards, landscape, tasting rooms, tourist facilities, etc., in other words the 'winescape' (Hall et al., Johnson and Bruwer, 2007).

According to Alant and Bruwer (2004), the 'winescape' encapsulates the interplay of: vineyards, wine firms and other physical structures, wines, natural landscape and setting, people, and cultural heritage.

The 'winescape' concept has evolved over time from the core vineyard and/or winery facility to the greater conceptualization of a wine region as a tourist destination. In this direction, there is a consistent research stream supporting that wine tourists perceive a wider range of benefits before purchase and during winery visits, including tourism aspects of the surrounding community, such as outdoor recreational areas, regional heritage, cultural attractions, and so on (Bruwer and Alant, 2009; Cohen and Ben-Nun, 2009; Bruwer and Lesschaeve, 2012; Sheridan et al., 2009). These studies lead to affirm that within the process of wine tourism, the

lowest level of integration is merely to taste, while the highest one includes a comprehensive cultural experience. In this regard, wine tourist can be graded from low to high involvement (integration) with the wine experience and contributes unconsciously to the revitalization of rural areas and the strengthening of the diversification of the individual regions and their traditions (Contò et al., 2014).

As before underlined, since the majority of wine firms are located in rural areas, wine tourism can offer a chance for their revitalization and growth. More specifically, from a "hidden" and almost inhospitable place of production, the wine firm become "transparent", connecting the production, rural areas and the external landscape. It is a new relationship among landscape, wine firm and consumers, and the territory is the element of connection. This is why wine firms are conceived as "cultural markers". Wine tourism is widely recognized as having a strong association with rurality (Carmichael, 2005; Getz and Brow, 2006; Howland, 2007). In particular, Carmichael (2005) states that the «rural landscape is an integral part of wine tourism» and that «there is romance in the rural setting, in rural livelihoods in the winery and vineyard, as well as the romance and sensual feeling associated with drinking wine» (p. 189). Bonnemaison et al. (2005) also suggest that there is an overlap between what they define the "cultural *ensemble*" (it includes viticulture and wine making techniques and traditions, distribution systems, consumption patterns, wine tourism and the related landscape) and the region of production.

In the light of these studies, there appears clear that wine tourism plays a key role not only in sustaining the revitalization of a rural and peripheral area, but also in contributing to the local tourism development (Hall and Mitchell, 2000). Specifically, wine tourism can allow international visitors to flow into regional and

peripheral places, rather than into gateway cities (Carlsen and Dowling, 2001). Moreover, it can be a winning solution also for wine firms, because it can boost their international and domestic sales (Ravenscroft and van Westering, 2001).

Overall, wine tourism can contribute to the development of a tourism destination. This is particularly true in Southern Italy, most of all in Campania Region, which can count not only on excellent grape growing activity and wine production, but it is also a region of great value in terms of historical-cultural and natural heritage (Mancino and Lo Presti, 2012).

In conclusion, this chapter provides this dissertation with a general overview of the world of wine, highlighting the multifaceted nature of wine as product and its tight linkages to other sectors (from cultural heritage to the fashion and luxury industry up to wine tourism). In this regard, wine industry may have noteworthy repercussions on such satellite sectors.

Specifically, in the light of its connection with other industries and the more recent globalizing forces that are currently reshaping the wine industry (NW countries are introducing always more innovative applications to climb over the Old producers in order to get the top positions in the wine global ranking), the OW countries, and above all Italian regions, to not loose their long-lasting primacy, are forced to implement innovation upgrades. Even if these regions can count on a strong *terroir* orientation, the introduction of innovation patterns becomes the path to follow in order to retain their leading position. In this sense, mixing tradition and innovation seems to be the winning formula for old wine producers, and above all for Campania Region.

Definitively, by taking into account the theoretical framework on innovation and the different facets characterizing the world of wine, the next section will deal with the empirical analysis that, in line with the research questions and objective, aims at verifying if small wine firms implement innovation and if yes, how these firms can be clustered in relation to the types of innovation they implement. Moreover, a Structural Equation Modelling will be implemented to test if there is a positive relationship between the innovation dimensions and the wine firm's perception to be innovative.

CHAPTER IV

RESEARCH METHODOLOGY AND DISCUSSION

4. 1 The context: the Campania Region wine industry

The choice to concentrate this study on firms located in the same region derives from the need to avoid the fact that territorial differences strongly impact wine aspects and managerial behaviour. There is growing recognition that focusing on a regional geographic scale is the best approach to study and promote the development of a knowledge-based economy and the innovativeness of firms (Isaksen and Onsager, 2010, Dell'Era and Bellini, 2009; Doloreux and LordTarte, 2013).

The interest of undertaking this study in Campania Region is twofold: firstly, top quality wines are a "flag product" of Campania and, secondly, it is a region with a wine tradition of ancient origins (it is one of the first and most important centres of settlement, cultivation and study of wine in the world) (Rossi et al., 2012).

In the framework of the international wine-growing system, Campania is still today characterized by the presence of old vine varieties in many vineyards.

The link between the grapevine and the region of origin is also testified by the archaeological finds, which document the excellent quality of the local wines, known in the antiquity as the "emperors' wines". Etruscans, for first, started the cultivation of vine and wine production in Campania, followed by Greeks. During Roman Empire, they named Campania Region as "*Campania Felix*" because of the abundant and varied cultivation of vine (the largest of the Empire).

Unfortunately, in the second half of the nineteenth century the local grapevines were affected by an "incurable disease" that was spreading throughout Europe. In spite of this unfavourable circumstance, during the latest years, several autochtonous vines have been recovered and the vines variety is still today considered a valuable asset.

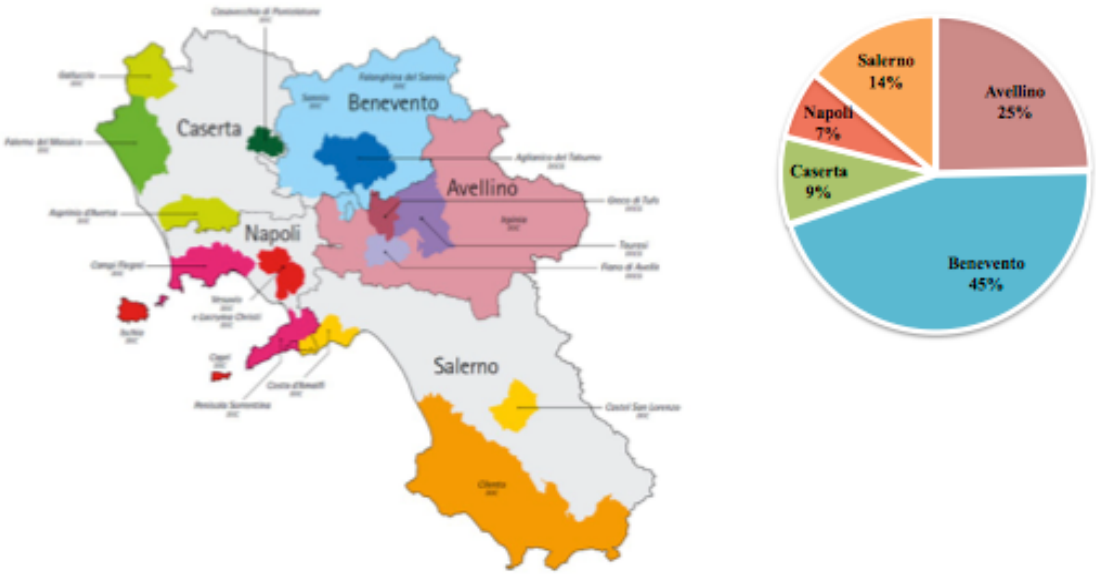
As a result, the regional oenology is currently characterized by an enormous variety of grapevines cultivated in the area: there are more than 100 autochtonous vine varieties (a number that is unequalled in the world) (Regione Campania, 2016).

Overall, it can be stated that viticulture in Campania is rich in authenticity and uniqueness. Each province of Campania (Avellino, Benevento, Caserta, Napoli and Salerno) boasts local grape varieties and is linked to its wine productions by a long-lasting symbiosis. Every wine is able to tell the history of the area and can be conceived as an ambassador of the culture and traditions of the territory. Thus, every wine-growing area in Campania Region is a "unique microworld" capable of leaving distinctive imprints on the wines. This is perfectly in line with the *terroir* notion (par. 3.2), according to which wines from a particular region are unique and incapable of being reproduced outside that area, even if the grape varieties are meticulously cloned and replaced everywhere. In this regard, Campania wine firms should persistently continue to catch the opportunity to cultivate and valorize their

autochtones vines, since they are appreciated and preferred by consumers, both locally and internationally (Thrassou and Vrontis, 2009; Vrontis et al., 2011).

Wine is produced all over the region, with a high concentration in the provinces of Avellino and Benevento. More precisely, looking at the Campania vineyard surface area (fig. 4.1), the cultivated surface is 23.281,4 hectares and is distributed among the five provinces of the region, with a predominance of Benevento (45%) and Avellino (25%). The provinces of Salerno, Caserta and Napoli cover only 30% of the total amount.

Fig. 4.1 – Campania vineyard surface area (2016)



Source: own elaboration

The Sannio valley (Benevento area) has a well-established and historical winemaking vocation. It extends over the pre-Roman grape-growing region of Samnium and can be considered the "true great wine route" in this region for its

biodiversity and its numerous vineyards (Migliaccio et al., 2008; Pezzillo Iacono et al., 2014).

In this area, the grape variety Aglianico gives birth to the DOP/DOCG Aglianico del Taburno, the DOP/DOC Sannio and DOP/ DOC Falanghina del Sannio.

The province of Avellino (Irpinia area) is the cradle of valuable wine productions with Denominations of Protected Origin (DOC/ DOCG), such as Taurasi, Fiano di Avellino, made from the ancient *Vitis Apiana*, and Greco di Tufo.

The province of Caserta gives birth to the DOP/DOC Falerno del Massico, Asprinio di Aversa made from grapes that grow vertically thanks to the help of poplar structures, and finally Galluccio and Casavecchia di Pontelatone.

The area of Naples and its surroundings, including Vesuvio area, is characterized by volcanic lands with the following grape varieties: Piedirosso, Falanghina, Biancolella, Sciascinoso and Forastera, etc. From these grapes many DOP/DOC wines are produced, such as Lacryma Christi, Falanghina dei Campi Flegrei, Ischia and Capri.

The province of Salerno, and especially the area of Cilento is characterized by DOP/ DOC wines, such as Cilento and Castel San Lorenzo. Other establishments of vineyards, from which DOC labelled wines are produced, are located in Amalfi coast and, in particular, in three subzones: Furore, Ravello and Tramonti.

Overall, the success of DOP and IGP wines from Campania in recent years is partcularly due to export activities. The data presented in occasion of the 2017 Vinitaly's exhibition (Vinitaly, 2017) reveal that the ancient traditions of wine culture in Campania increasingly appeal a large audience of enthusiasts looking for

unique and typical flavours. In the last decade, the Campania export performance is increased by 261%, whilst the national trend records a growth of only 85%.

4.2 Methods for data collection: a statistical survey

The empirical analysis aims to verify if small wine firms implement innovation at different levels (product/process, marketing/organizational and open/systemic innovation) and, if yes, to test their inclination to adopt and implement some innovation practices rather than other ones.

The second step of the current dissertation is to cluster the sampled wine firms according to the types of innovation they implement.

The third and last phase views the application of a Structural Equation Modelling (SEM) to test the theoretical model derived from the literature review. In this regard, the main purpose becomes to test if there is a positive relationship between the selected innovation dimensions and the wine firm's perception to be innovative.

In order to obtain a broad overview of the modes of innovation in the wine industry, this work has been carried out using a multi-step methodology.

Consistent with the research scope, on the premise of the literature review (see par. 2.2), four variables have been taken into consideration for the examination of the modes of innovation: types of innovation, innovation activities, external knowledge sources, and systemic innovation (table 4.1). Than, each variable has been further explained by specific qualitative proxies, which account for a total amount of 24 items.

In order to maintain a reasonable control over the research, these proxies have been discussed with three different oenologists and experts of the Campania Region's wine industry. Actually, using a "panel of experts" familiar with the construct is a way in which this type of validity can be assessed (Hardesty and Bearden, 2004; Rubio et al., 2003).

Specifically, the experts performed a formal content validity assessment providing the author with proper suggestions and effective recommendations. For example, in relation to the PR6 (Farinelli, 2016; Chiffoleau and Touzard, 2014; Bortoluzzi et al., 2015; Gilinsky et al., 2008; Aizenman and Brooks, 2008), they suggested to circumscribe the analysis by considering only the grape varieties that are included in the wine production policy document provided by Campania Region.

As for other variables derived from the literature review, the panel confirmed their validity and effectiveness. Thus, once collected the qualitative evidence from the experts, the selected variables have been used to draw up the questionnaire, which, in turn has been submitted to a pilot survey. This one is conceived to be a strategy useful for testing the questionnaire using a smaller sample compared to the effective and planned sample size (Rowley, 2012). Furthermore, as innovation is a time-dependent process, the author fixed a time span of three years for innovation studies surveys, in line with OECD-EUROSTAT (1997) (Presenza et al., 2016; van de Vrande et al., 2009).

The pilot survey allowed the author to gather information on whether the type of survey was effective in fulfilling the purpose of the study. After having interviewed a sample of 20 wine firms and analysed the results of the pilot survey, the questionnaire format has been definitively validated.

Table 4.1 – Variables of innovation in small wine firms

INNOVATION DIMENSIONS	LABELS	PROXIES	REFERENCES
TYPES OF PRODUCT/PROCESS INNOVATION	PR1	Introduction of new farming cultivation techniques (e.g. organic and/or biodynamic viticulture methods)	Farinelli, 2016; Bortoluzzi et al., 2015
	PR2	Introduction of the grape harvest mechanization (e.g. self-propelled harvester; tractor-drawn harvester	Tudisca et al., 2013
	PR3	Use of selected (autochthon) yeasts and adoption of enzymes to regulate fermentation	Pezzillo Iacono et al., 2014
	PR4	Use of "concrete eggs" to ferment wine	Howard, 2015
	PR5	Use of barriques during the fermentation and/or conservation processes	Chandra et al., 2016; Lenzi, 2013;
	PR6	Introduction of new varieties of grapes	Farinelli, 2016; Chiffoleau and Touzard, 2014; Bortoluzzi et al., 2015;
	PR7	Installation of new refrigeration devices (e.g. wireless sensor networks) at the various stage of vinification	Zhang et al., 2015; Houtman and Du Plessis, 2017; Farinelli, 2016
	PR8	Use of gravity flow mechanisms during the wine pouring	Farinelli, 2016; Carter, 2017; Barbaresi et al., 2017
INNOVATION (MARKETING AND	MK1	Wineries as touristic attractions	Morrison and Rabellotti, 2017
	MK2	Use of a website, social networks (Facebook, Twitter, Instagram), newsletters for marketing purposes	Farinelli, 2016; Contò et al., 2014; Vlachvei et al., 2012;
	MK3	Organization of winery tours, food and wine tastings, cultural events	Farinelli, 2016; Contò et al., 2014; Maizza et al., 2017; Lenzi, 2013
	MK4	Adoption of a sophisticated architectural design of the winery as a marketing tool	Morrison and Rabellotti, 2017; Farinelli, 2016
	MK5	Increase of visibility through in-store merchandising activities (e.g. free sampling, special offers, sponsorship)	Negrin, 2015
	MK6	Participation in national and international fairs	Lenzi, 2013; Farinelli, 2016

ORGANIZATIONAL) ACTIVITIES	MK7	Commercial activities in terms of export orientation	Bortoluzzi et al., 2015; Doloreaux et al., 2013
	MK8	Training highly educated, technically and experienced personnel	Gil et al., 2015; Lee et al., 2016
EXTERNAL KNOWLEDGE SOURCES	EX1	Intensive info exchanges with costumers	Presenza et al., 2016; Doloreux et al., 2013
	EX2	Intensive info exchanges with local institutions	Beebe et al., 2013
	EX3	Intensive info exchanges with consultants -"flying winemakers"(agronomists, oenologists, and so on)	Morrison and Rabellotti, 2017;; Lenzi, 2013
	EX4	Intensive info exchanges with public and private research centres and/or universities	Presenza et al., 2016
SYSTEMIC INNOVATION	SY1	Acquisition of technologies through cooperation agreement, acquisition of patents, licenses, etc.	Bortoluzzi et al., 2015
	SY2	Reciprocity in sharing know-how with competitors	Dries et al., 2013; Presenza et al., 2016
	SY3	Being member of consortia or trade associations	Pezzillo Iacono et al., 2016
	SY4	Presentation of projects together with other local actors to get access to funding resources	Contò et al., 2014

Source: own elaboration

The second phase of the research methodology sought to identify all the wine firms operating in Campania Region. A complete wine firms' list has been developed using the following sources: firms inscribed in the registers of the Chamber of Commerce of each Campania province (Avellino, Benevento, Caserta, Napoli and Salerno) and the firms classified as wine firms by Campania Region government – Agro-food Department (Wine Guide 2016-2017). As a result, a population of 317 wine firms characterizes the Campania' s wine industry.

The selected population was the result from the second phase and amounted to 317 for the whole of Campania Region with 177 participating to the survey (assuming a sample random simple as sampling method), for a total response rate of 56.0 percent.

Surveys have been identified as the most widely used technique within the social science (Solomon, 2001). In particular, web surveys reduce bias errors (Frankfort-Nachmias and nachmias, 1996) and guarantee a high degree of anonymity of the respondent being self-administrated (Alreck and Settle, 1985).

Than, the survey has been mainly conducted through a computer assisted web interviewing (CAWI) method, and for those firms that have no answered to the web survey, a computer assisted telephone-interviewing (CATI) method has been adopted. The main differences between these modes are the interviewer presence, the form or presentation of the questions and the available time for the interview. Whereas the CAWI method is a self-administered interview, CATI is interviewer administrator. In both cases, the lack of visual contact might give them a somewhat higher degree of anonymity than face-to-face interviews.

As for the current dissertation, with respect to a total amount of 177 replies to the survey, 98 of them derive from the application of the CAWI system (the author used LimeSurvey to carry out the empirical investigation), while other 79 replies have been acquired through computer assisted telephone interviews.

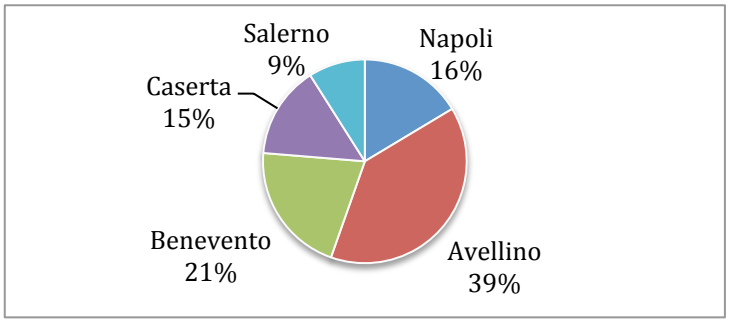
Before proceeding with the data analysis and discussion of the results, the next paragraph is going to provide some descriptive data for the sample.

4.3 Description of the sampled firms

As previously mentioned, the data employed in the current dissertation comes from a firm-level survey.

Graph 4.1 illustrates the sampled firms' geographical distribution. What emerges from this graph is that the highest percentage (39%) of the sample relates to wine firms located in the province of Avellino. It is followed by the province of Benevento (21%), Napoli and Caserta with a percentage of respectively 16% and 15%. The lowest portion of respondents to the survey regards wine firms operating in the province of Salerno (9%). The sampled firms' geographical distribution reflects that one related to the whole population. More specifically, table 4.2 compares the geographical distribution of the population with that one related to the sampled firms. There emerges that the highest percentage of sampled firms comes from Avellino, which, in turn, is the province with the highest number of wine firms characterizing the entire population. Overall, it is possible to affirm that the random sample is evenly distributed through the whole population.

Graph 4.1 – Sampled firms' geographical distribution



Source: own elaboration

Table 4.2 – Population and sample's geographical distribution

Campania Region's provinces	Sample	Population
Avellino	69	134
Benevento	37	63
Napoli	29	69
Caserta	26	35
Salerno	16	16
Tot.	**177**	**317**

Source: own elaboration

Table 4.3 and 4.4 provide some key information about the sampled firms and respondents' profile. In particular, what emerges from table 4.3 is that the majority of the sampled firms (74%) are family-run businesses and of micro or small size, in terms of employees: only one firm can count on more than 50 employees, whilst most of them are micro ones with less than 10 employees. Moreover, another interesting data refers to the years of foundation: the majority of the sampled wine firms were established more than 11 years ago. Specifically, 62 out of 177 wine firms were born in the late 90's and mid-2000, 46 of them were established between the 70s and the end of the 20th century, and finally 42 were established more than 50 years ago. These data reveal that firms characterize the Campania's wine industry with a long-lasting tradition in wine production.

Table 4.3 – Description of sampled firms

Variable	**Frequency distribution (n=177)**				
1. Ages (years of foundation)	*Less than 10*	*11-20*	*21-50*	*More than 50*	*Total*
a.v.	27	62	46	42	177
p.v.	15.0	35.0	26.0	24.0	100%
2. Size (no. of employees – time span	*Less than 10*	*10-19*	*20-49*	*More than 50*	*Total*

2011-2016)					
a.v.	151	18	7	1	177
p.v.	85,3	10.2	4.0	0.6	100%
3. Firm's configuration	*Run by winemaker and family-based*	*Run by winemaker and non family-based*	*Cooperatives*	*Other*	*Total*
a.v	131	30	6	10	177
p.v	74.0	16.9	3.4	5.6	100%

Source: own elaboration

Table 4.2 provides an overview of the respondents' profile, in terms of age and firm's position. The highest percentage of the interviewees is related to the firms' owners, whilst the smallest portion of the sample (19,8%) regards overall oenologists, agronomists and sales/marketing managers. As for the respondents' age, 36 out of 177 have no answered to this query, so the frequency distribution has been calculated on a sample of 141 respondents. Of this total, the majority of them are more than 50 years old.

Table 4.4 – Respondent's profile

Variable	**Frequency distribution (n=177)**				
1. Age	*Less than 30*	*31-40*	*41-50*	*More than 50*	*Total*
a.v.	10	33	45	53	141*
p.v.	5.6	18.6	25.4	29.9	79,7%
2. Position	*Owner*	*Oenologist*	*Agronomist*	*Sales/Marketing manager*	*Total*
a.v.	142	12	3	20	177
p.v.	80.2	6.8	1.7	11.3	100%

* missing value

Source: own elaboration

4.3 Data analysis and discussion

The empirical section of the current dissertation is strictly connected to the research scope and research questions, as well.

Data were loaded into SPSS software and in a second phase elaborated in RStudio (a language and environment for statistical computing and graphics).

To carry out the analysis, a four-item Likert scale (4 = Yes, noteworthy, 3 = Yes, good, 2 = Yes, marginal, 1 = No) questionnaire with 24 items has been used. These items, in turn, refer to 4 macro-groups that are: 1) types of product/process innovation (PR); 2) innovation (marketing/organizational) activities (MK); 3) external knowledge sources (EX), and 4) systemic innovation (SI). In order to test the internal consistency reliability, Cronbach's alpha has been measured for each construct (see Appendix A). This test supported the author in understanding the degree to which the collected responses were consistent across the four different dimensions.

According to the academic literature, Cronbach's alpha coefficients of as low as 0.5 are satisfactory for short tests (10 - 20 items), whilst tests with over 50 items should yield KR-20 values of 0.8 or higher (1.0 is the maximum) (Kehoe, 1995; Chakrapani, 2004; Schmitt, 1996). The alpha coefficients for all dimensions are higher than 0.5 (respectively 0.575 (PR), 0.870 (MK), 0.644 (EX), 0.697 (SI)), indicating a good level of reliability for each dimension. The overall Cronbach's alpha of the multidimensional scale is 0.7, so the construct reliability is assessed as adequate.

The empirical investigation has been carried out to answer to the above-mentioned research questions (par 1.3). Specifically, as for the first research question that tries

to understand if traditional and *terroir*-oriented wine firms adopt innovation (RQ1) and, if yes, to investigate on how they implement the different innovation patterns (RQ1a), three different hypothesyses have been formulated:

- *Hp1*: Wine firms implement some kinds of innovation
- *Hp1a*: Wine firms perceive only some innovation typologies as really significative
- *Hp1b*: Wine firms that implement some kinds of innovations conceive these ones as very signifivative

Thus, for each of 24 selected items, a frequency distribution of the three values that are no, a little (yes, marginal), much (yes, good + yes, nothworthy) has been calculated. Those firms that retain to not implement significant innovations have been removed from the sample. The first step has been to conduct a test of significance by defining the null hypothesis (H_0) and the alternative hypothesis (H_1). Hence, the significance level α, which corresponds to the value for which the null hypothesis should be rejected or retained, has been fixed at 0,5 (Capraro, 2007). To determine whether a result is statistically significant, the p-value has been calculated. It relates to the probability of observing an effect given that the null hypothesis is true. The result is statistically significant, by the standards of the study, when $p < \alpha$ (Cumming, 2012; Krzywinski and Altman, 2013). In other terms, if the p-value of an observed effect is less than the significance level, it is possible to assess that the effect properly reflects the characteristics of the whole population, thereby rejecting the null hypothesis.

On this basis, table 4.5, in the fifth column, reports the p-values related to each item.

Table 4.5 – Hp1

ITEM	no	a little	much	p-value (h1a)	CI min (h1a)	CI max (h1a)
PR1	78	22	77	0,1328	0,4829	0,6331
PR2	149	13	15	**0,0000**	0,1094	0,2223
PR3	86	35	56	0,7637	0,4382	0,5894
PR4	148	11	18	**0,0000**	0,1142	0,2285
PR5	41	33	103	**0,0000**	0,6979	0,8269
PR6	90	31	56	0,8805	0,4161	0,5673
PR7	31	34	112	**0,0000**	0,7590	0,8762
PR8	150	9	18	**0,0000**	0,1046	0,2160
MK1	37	53	87	**0,0000**	0,7221	0,8468
MK2	88	39	50	1,0000	0,4271	0,5784
MK3	28	40	109	**0,0000**	0,7777	0,8906
MK4	55	26	96	**0,0000**	0,6147	0,7554
MK5	7	40	130	**0,0000**	0,9170	0,9826
MK6	61	52	64	**0,0000**	0,5798	0,7240
MK7	95	30	52	0,3671	0,3886	0,5395
MK8	66	29	82	**0,0009**	0,5510	0,6976
EX1	64	41	72	**0,0003**	0,5625	0,7082
EX2	45	44	88	**0,0000**	0,6739	0,8068
EX3	94	21	62	0,4523	0,3941	0,5451
EX4	64	53	60	**0,0003**	0,5625	0,7082
SY1	67	52	58	**0,0016**	0,5453	0,6923
SY2	52	22	103	**0,0000**	0,6324	0,7709
SY3	103	39	35	**0,0353**	0,3452	0,4946
SY4	66	52	59	**0,0009**	0,5510	0,6976

Source: own elaboration

Those ones that are less than 0,5 (highlighted in bold) are significative. Nonetheless, in order to understand if the sampled firms are likely to innovate or not, the analysis moves on an advanced step that consists of estimating the confidence intervals (CI min; CI max) for the situations described under the scope. In this circumstance, the values (highlighted in green) greater than 0,5 express the situation in which for each specific item (PR5, PR7, MK1, MK3, MK3, MK4, MK5, MK6, MK8, EX1, EX2, EX4, SY1, SY2, SY4) the sampled firms tend to implement innovation. As for P2, P4, P8, S3 the population is considered as not innovative and, finally, concerning P1,

P3, P6, MK2, MK7, EX3, since α is included in the confidence interval, there is no adequate information to explain the sample.

In relation to Hp1a (table 4.6), the analysis has just been focused on values labelled as "much". Obviously, this leads to a reduction of the sample; indeed, only the following items: PR5, PR7, MK3, MK5, SY2 remain significative and expression of the sampled firms' inclination to introduce innovation. All other items continue to be significative, but in an opposite (negative) direction, indicating the firms' inclination to not implement any kinds of innovation.

Table 4.6 – Hp1a

ITEM	no	a little	much	p-value (h1b)	CI min (h1b)	CI max (h1b)
PR1	78	22	77	0,0982	0,3614	0,5115
PR2	149	13	15	**0,0000**	0,0499	0,1385
PR3	86	35	56	**0,0000**	0,2498	0,3911
PR4	148	11	18	**0,0000**	0,0631	0,1583
PR5	41	33	103	**0,0353**	0,5054	0,6548
PR6	90	31	56	**0,0000**	0,2498	0,3911
PR7	31	34	112	**0,0005**	0,5568	0,7029
PR8	150	9	18	**0,0000**	0,0631	0,1583
MK1	37	53	87	0,8805	0,4161	0,5673
MK2	88	39	50	**0,0000**	0,2188	0,3558
MK3	28	40	109	**0,0026**	0,5396	0,6870
MK4	55	26	96	0,2927	0,4661	0,6168
MK5	7	40	130	**0,0000**	0,6619	0,7966
MK6	61	52	64	**0,0003**	0,2918	0,4375
MK7	95	30	52	**0,0000**	0,2291	0,3676
MK8	66	29	82	0,3671	0,3886	0,5395
EX1	64	41	72	**0,0162**	0,3344	0,4832
EX2	45	44	88	1,0000	0,4216	0,5729
EX3	94	21	62	**0,0001**	0,2812	0,4260
EX4	64	53	60	**0,0000**	0,2707	0,4144
SY1	67	52	58	**0,0000**	0,2602	0,4028
SY2	52	22	103	**0,0353**	0,5054	0,6548
SY3	103	39	35	**0,0000**	0,1433	0,2656
SY4	66	52	59	**0,0000**	0,2655	0,4086

Source: own elaboration

As for Hp1b, first of all, the computation has been cleaned from all values corresponding to "no" and the analysis has been aimed at verifying if, among the innovative firms, the percentage of those ones that really implement innovation ("much") is significatively different from the mean. In other words, the scope has been to test if, among innovative firms, the innovation tends to be marginal or, on the contrary, noteworthy. As emerges from the table 4.7, when innovation is implemented, this one tends to be very significative. Indeed, it does not exist an inclination to be "marginal innovators": those firms that adopt some kinds of innovations are more likely to be "big innovators".

Table 4.7 – Hp1b

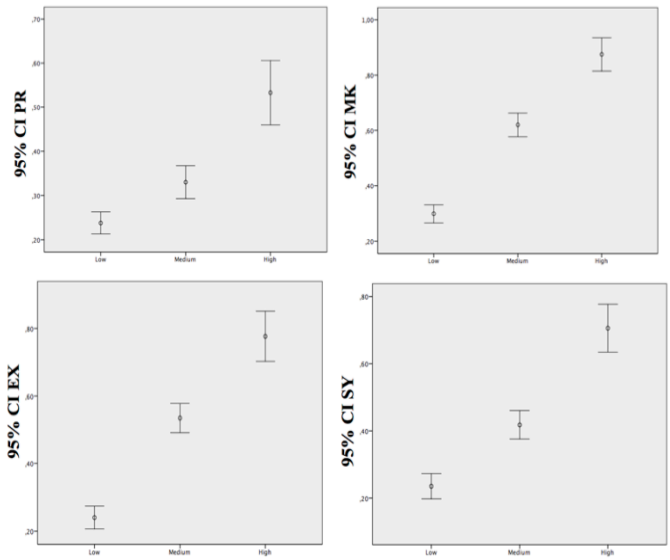
ITEM	no	a little	much	any yes	p-value (h1b2)	CI min (h1b2)	CI max (h1b2)
PR1	78	22	77	99	**0,0000**	0,6809	0,8527
PR2	149	13	15	28	0,8501	0,3421	0,7199
PR3	86	35	56	91	**0,0360**	0,5072	0,7137
PR4	148	11	18	29	0,2652	0,4236	0,7870
PR5	41	33	103	136	**0,0000**	0,6750	0,8249
PR6	90	31	56	87	**0,0101**	0,5331	0,7414
PR7	31	34	112	146	**0,0000**	0,6886	0,8313
PR8	150	9	18	27	0,1237	0,4602	0,8276
MK1	37	53	87	140	**0,0053**	0,5352	0,7008
MK2	88	39	50	89	0,2891	0,4528	0,6654
MK3	28	40	109	149	**0,0000**	0,6517	0,7992
MK4	55	26	96	122	**0,0000**	0,7016	0,8537
MK5	7	40	130	170	**0,0000**	0,6924	0,8248
MK6	61	52	64	116	0,3071	0,4568	0,6432
MK7	95	30	52	82	**0,0204**	0,5199	0,7357
MK8	66	29	82	111	**0,0000**	0,6452	0,8154
EX1	64	41	72	113	**0,0048**	0,5409	0,7240
EX2	45	44	88	132	**0,0002**	0,5786	0,7448
EX3	94	21	62	83	**0,0000**	0,6375	0,8332
EX4	64	53	60	113	0,5725	0,4351	0,6247
SY1	67	52	58	110	0,6336	0,4302	0,6224
SY2	52	22	103	125	**0,0000**	0,7434	0,8841
SY3	103	39	35	74	0,7273	0,3571	0,5917
SY4	66	52	59	111	0,5690	0,4348	0,6260

Source: own elaboration

In order to answer to the second research question (RQ2) concerning the investigation on how the sampled wine firms can be clustered in relation to their degree of implemented innovation, the data have been analysed using a specific statistic tool that is the hierarchical cluster analysis.

As first step, four innovation indices (PR, MK, EX, SY) have been built, by converting each category score to the percentage of the maximum score for the category, then multiplying by 100. So, the four equalized scores have been compared with the total maximum value of 100. Once obtained these four scales, a hierarchical clustering (with a 3-groups solution) has been applied. After having defined the three different groups (low – medium – high), this study has been focused on how these latter relate to each innovation dimension (fig. 4.2). Hence, the 95% confidence interval has been defined and for each construct the minimum and the maximum values have been calculated.

Fig. 4.2 – 95% Confidence Interval Plot



Source: own elaboration

Table 4.8 – Cluster analysis

	Low *Cluster 1* = n. 102			Medium *Cluster 2* = n. 56			High *Cluster 3* = n. 19		
	Min	**Max**	**Mean**	**Min**	**Max**	**Mean**	**Min**	**Max**	**Mean**
PR	0.213	0.263	0.238	0.293	0.368	0.330	0.459	0.606	0.533
MK	0.266	0.331	0.299	0.577	0.662	0.620	0.814	0.936	0.875
EX	0.206	0.273	0.240	0.490	0.578	0.534	0.702	0.850	0.776
SY	0.198	0.273	0.235	0.376	0.460	0.418	0.635	0.777	0.706

Source: own elaboration

With reference to both fig. 4.2 and table 4.8., some interasting remarks can be drawn. First of all, by comparing the results from confidence intervals, it is evident that these ones do not overlap. When 95% confidence intervals for the means of different independent populations do not overlap, there will be a statistically significant difference between the means (at the 0.05 level of significance) (Payton et al., 2003; Cumming and Finch, 2005). In this sense, no overlap corresponds to convincing evidence of a difference between the three different clusters.

In order to further investigate on the data derived from this analysis, there appears that the majority of the sampled wine firms (n = 102) belong to the "low innovation cluster". This means that the sample is mostly composed of firms that operate in a competitive parity business, paying little attention on the implementation of the modes of innovation. Nonetheless, it is also interesting to concentrate the attention on the "high innovation cluster" characterized by 19 sampled wine firms (see Appendix B). These ones are some of the most representatives wine firms in Campania Region, both in terms of number of produced wine bottles and of national and international awards.

Another useful consideration regards the PR dimension: in all three clusters, PR is the variable that records the lowest mean. More specifically, the data reffered to the introduction of technological innovations (PR) are convergent about the importance of the application of the most avant-garde practices to winemaking, but also of craft-like mastery and competencies in all stages of wine production, ranging from the vineyard to the cellar, which are considered as the key distinctive traits of quality and highly selected products. Hence, even there is evidence that the sampled wine firms introduce and implement product and process innovation (also in the "low innovation cluster), the majority of them rely on an artisanal approach. This is linked to the concept of *terroir* according to which wine is perceived as *reservoir* of traditions anchored to the past. In terms of tradition, wines are produced by the firms according to traditional techniques. However, in this specific case, tradition does not mean to make wine in the old way, but allows the introduction of the necessary technologies to produce fine high-quality wines.

The dimension that in all three clusters records the highest mean is MK. This reflects the fact that in the most recent years Campania' s wine firms are increasingly investing their own resources in marketing and organizational activities. In this perspective, wine firms and wine consortia are contracting with communication and marketing agencies to advertise their products. But, even more important is the attention that wine firms are giving to the wine tourism phenomenon.

In this regard, a collective marketing strategy has been carried out through coordinated communication activities aimed at strenghtening wine firms' individual brands under a common umbrella that is "Movimento Turismo del Vino". This is a no profit association, whose objective is to promote wine culture by visiting the

production sites. In Campania Region, the number of wine firms taking part to "Movimento Turismo del Vino" is 29. Moreover, it is very interesting to note that 9 out of 19 wine firms belonging to the "high cluster innovation" take actively part to this association. Overall, this result is promising and extremely positive since wine firms need to get used to communication and marketing strategies that allow them to meet customer expectations in the long-term, thus achieving an effective differentiation strategy in the market.

The empirical analysis proceeds with the measurement of the statistical relationship (or association) between variables, so the Pearson's correlation coefficient has been calculated. This is known as the best method of measuring the association between variables of interest because it is based on the method of covariance. It gives information about the magnitude of the association, or correlation, as well as the direction of the relationship (Lee Rodgers and Nicewande, 1988; Nagelkerke, 1991).

For the test of significance, the author has selected the two-tailed test of significance, since there is no an assumption on whether there is a positive or negative correlation between the variables. The correlation expresses the strength of linkage between two variables in a single value between -1 and +1. A positive value expresses a positive relationship between the two variables, while a negative value stands for a negative relationship.

With reference to table 4.9 that reports the Pearson Correlation coefficients for all variables, there appears that all associations are positive and the highest one (0.644) is between MK and EX. This result is in line with the academic literature (Presenza et al., 2016), according to which external sources and the relative firms' absorptive

capacity influence the creation of organizational competences (e.g. marketing and distribution).

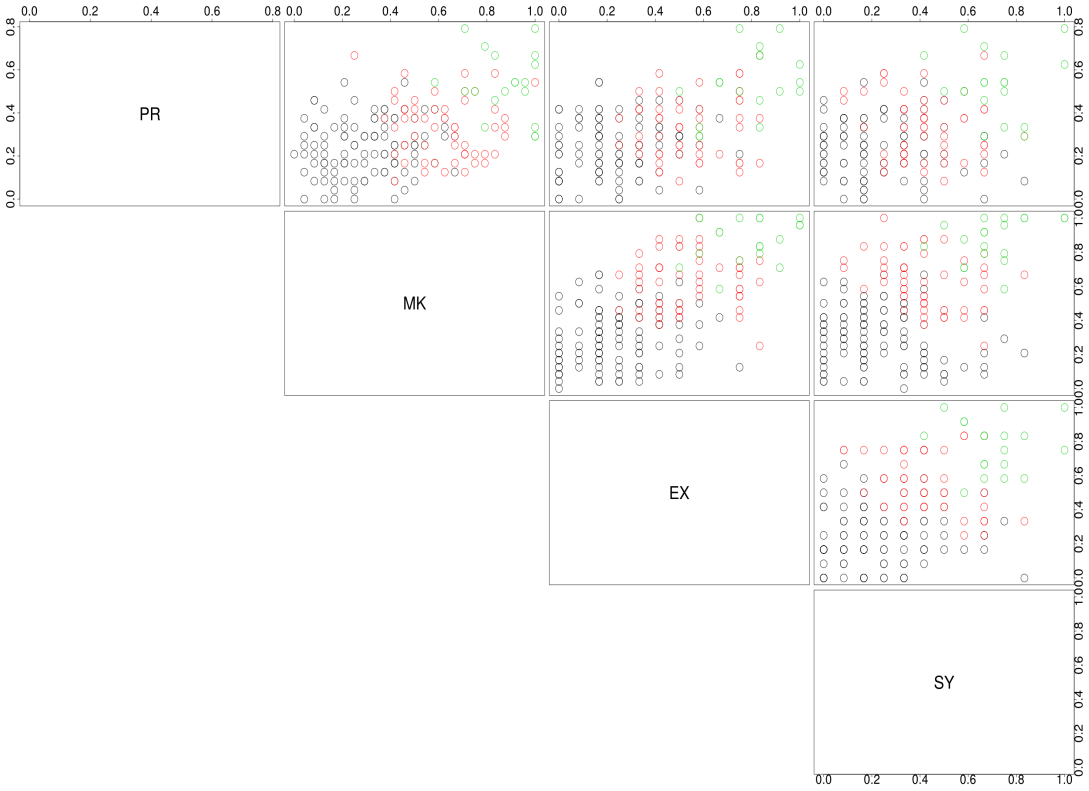
Table 4.9 – Values of the Pearson Correlation*

	PR	MK	EX	SY
PR	1	0.443	0.500	0.322
MK	0.443	1	0.644	0.415
EX	0.500	0.644	1	0.460
SY	0.322	0.415	0.460	1

** Correlation is significant at the 0.01 level*

In order to show a graphic representation of the associations between the selected variables, the scatter plot matrix has been built (fig. 4.3).

Fig. 4.3 – Scatter plot matrix - (Clusters)



Source: own elaboration

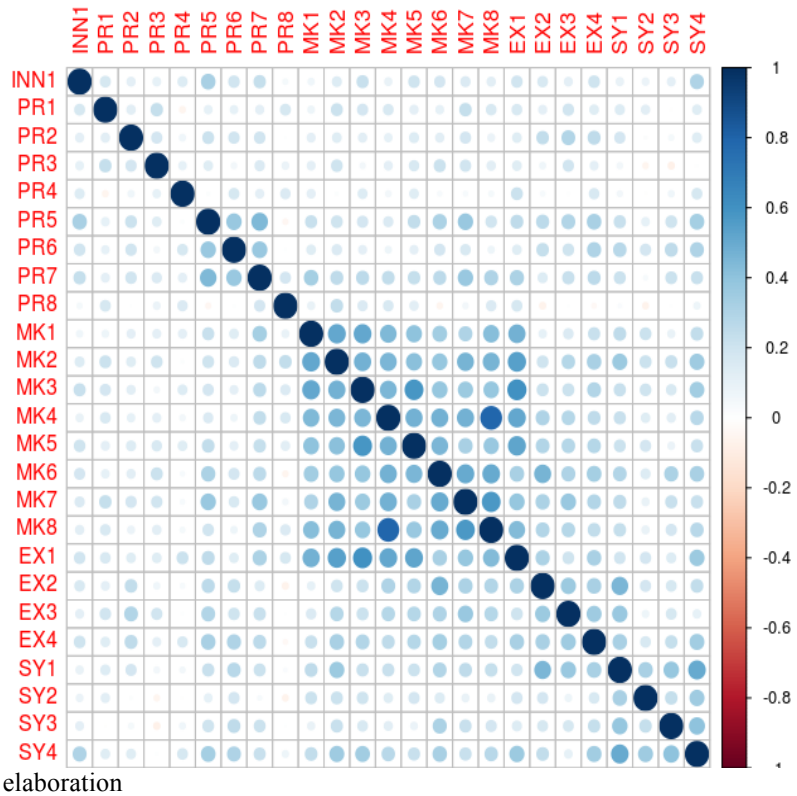
The overall pattern of a scatter plot can be described by the direction, form and strength of the relationship. Specifically, the strength of the relationship is given by the Pearson correlation coefficient. The direction of the relationship, which can be positive or negative is based on the sign of the correlation coefficient. Finally, the shape of the relationship should always be linear. This means that the points on the scatterplot closely resemble a straight line.

What emerges from fig. 4.3 is that the three different clusters (with the exception of some marginal cases) tend to not overlap and in all boxes they follow the same linear direction. This is explained by the fact that a variable increases by approximately the same rate as other variables change by one unit. Moreover, also in this graphic representation there clearly appears that the most correlated variables (those for which the values seem to resemble a straight line) are MK and EX.

To deeply investigate on the correlations between the observed variables, fig. 4.4 shows that the highest association is between MK4 (adoption of a sophisticated architectural design of the winery as a marketing tool) and MK8 (training highly educated, technically and experienced personnel).

Of great interest is also the strenght of the relationship that ties EX1 (intensive info exchanges with costumers) with all MK items. This in-depth analysis clearly shows that customers can be considered as relevant external actors. In these terms, customers provide ideas, knowledge and resources to be leveraged in the marketing innovation process. Hence, the customer involvement and the potential for joint working facilitate and allow a range of market opportunities. In this sense, interaction with customers may enable wine firms to develop and adjust their innovation efforts to the markets they serve.

Fig. 4.4 - Correlation matrix plot – (Items)



Source: own elaboration

In order to answer to the third research question (RQ3: How do the selected innovation dimensions impact on the respondents' perception to be innovative?), on the basis of the theoretical model (par. 2.5), the empirical analysis aims to test the following hypotheses:

Hp1	PR has a significant effect on INN	Marcati et al., 2008; Walker et al., 2010
Hp2	MK has a significant effect on INN	Gilinsky et al., 2008; O'Dwyer et al., 2009
Hp3	EX has a significant effect on INN	van Hemert et al. 2011; Frishammar and Åke Hörte, 2005
Hp4	SY has a significant effect on INN	Varis and Littunen, 2010

Than, the Structural Equation Modelling (SEM) has been implemented. It can be defined as "a class of methodologies that seeks to represent hypotheses about the means, variances and co-variances of observed data in terms of a smaller number of 'structural' parameters defined by a hypothesized underlying model" (Kaplan, 2000, p.1). SEM is a multivariate technique that can be adopted to determine and validate a proposed causal process and/or model through a "system of linked regression-style equations to capture complex and dynamic relationships within a web of observed and unobserved variables" (Gefen et al., 2000; Gunzler et al., 2013). SEM-based procedures present significant advantages over first-generation techniques because of the greater flexibility that a researcher has for the interplay between theory and data (Chin, 1998; Hong and Jeon, 2015).

SEM can be used when the relationship between two types of variables (observed and latent) needs to be investigated. The observed variables can be directly observed by the researcher through the adoption of some tools, such as questionnaires and/or data coming from specific databases. On the other hand, latent variables cannot be directly observed.

This dissertation uses Partial Least Square approach to SEM (SEM PLS). The reason why the author chose this technique derives from its flexibility that allows the analysis of a larger number of missing values and of variables with high correlation for a sample. Since there is no a well identified global optimisation criterion for PLS path models, each part of the model needs to be validated. For this task, several indices are known from the literature (Tenenhaus et al., 2005; Esposito Vinzi et al., 2010) and are reported in table 4.9.

Table 4.9 – A list of criteria for model validation

Function	Model criteria
R^2	Coefficients of determination
Dillon-Goldstein's rho	Composite reliability
AVE	Communality indices for reflectively measured latent variables (LVs) with more than one observed variables (MV)
Redundancy	Redundancy indices for endogeneous LVs

Source: own elaboration from Monecke and Leisch, 2012

As for the assessment of the model (table 4.10), all values referred to the composite reliability are higher that 0.7 (Chin, 1998; Gefen et al., 2000). This means that there is a significant convergent validity. Also the values (with the exception of PR) associated to AVE (communality) are quite satisfying since they are greater than 0.5 (Tenehaus et al., 2005). Moreover, following Falk and Miller (1991), which recommend that R^2 values should be equal to or greater than 0.10 in order for the variance explained of a particular endogenous construct to be deemed adequate, also for this value the model is assessed.

As a result, it is possible to confirm that the items measure just one construct and the convergent validity of the model is satisfied.

Table 4.10 – The assessment of the model

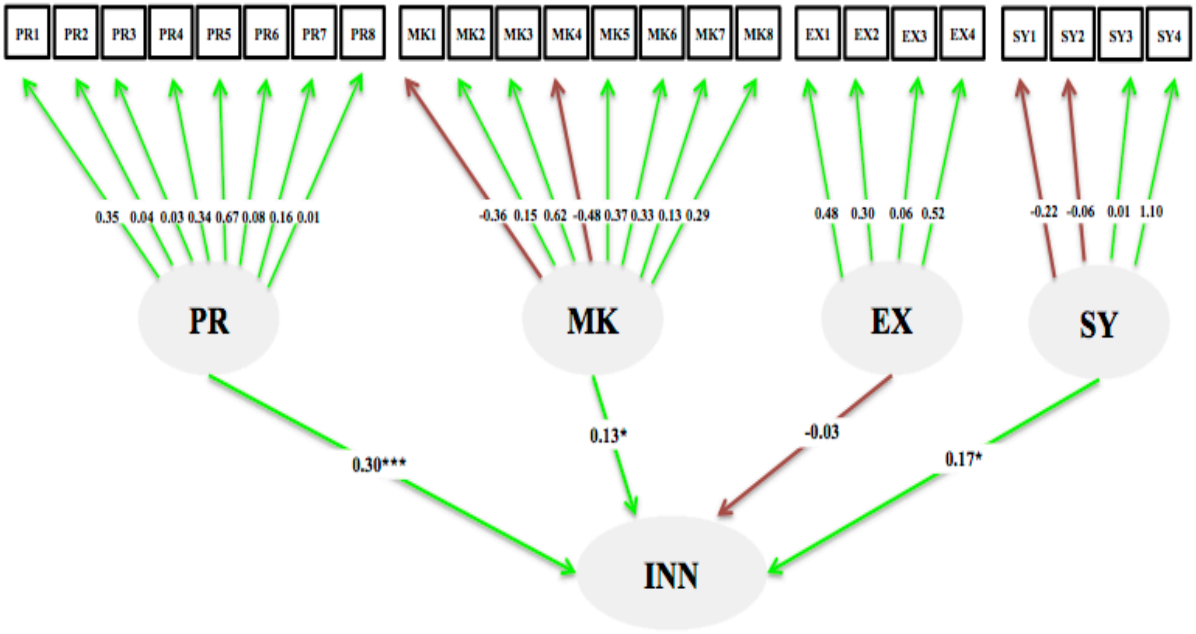
	R^2	Dillon-Goldstein's rho (Composite reliability)	AVE	Redundancy
PR		0.716	0.461	0.00
MK		0.898	0.516	0.00
EX		0.791	0.501	0.00
SY		0.818	0.506	0.00
INN	0.16	1	1	

Source: own elaboartion

Once the step of the model assessment is made, the second phase regards the estimation of the parametres of the structural model.

The model is designed in fig. 4.5: the latent variables (LV) of this SEM are PR, MK, EX, SY, while the manifest variables (MV) are the 24 indicators (the number of manifest variables for each latent variable concerns the issue of model identification).

Fig. 4.5 – The SEM analysis: path relationship model design



Note: *** indicates p<0.001, **indicates p<0.01, while *indicates p<0.05
Source: own elaboration

In the figure, the path coefficients or betas (ßs) (also included in table 4.11) are indicated numerically on the paths between the following constructs: PR -> INN; MK -> INN; EX ->INN; SY -> INN, along with their direction and significance (negative relationships are noted with red lines). The bootstrapping technique is used

to validate the significance of path coefficients. This method allows assessing the accuracy of statistical estimations (Efron and Tibshirani, 1998) and to generate a distribution of a statistic (Mooney and Duval, 1993). Through bootstrapping, PLS creates a distribution for each path coefficient.

Table 4.11 – Regression weights and test results

Impact	Path coefficients (ß)	Lower	Upper
PR → INN	0.30	0.18	0.43
MK → INN	0.13	0.02	0.34
EX → INN	- 0.03	- 0.13	0.18
SY → INN	0.17	0.04	0.29

Source: own elaboration

The SEM analysis shows that product and process innovation (PR) has a positive and significant effect on the wine firms' perception to be innovative, thus proving the Hp1. In line with Marcati et al. (2008) and Walker at al. (2010), firms perceive themselves as significantly innovative when introducing technological (product and process) innovation. Moreover, no significant proof is found for the relation between both marketing innovation and innovation perception and systemic innovation and innovation perception. Finally, there is a negative interaction effect on the relation between external knowledge sources and innovation perception.

As a result, besides Hp1, all other hypotheses are not supported by the model, thus requiring further investigation.

After having carried out the data analysis and the discussion of the before-mentioned research questions, some conclusions will be outlined.

4.5 Conclusions

The objective of this dissertation was to both analyse if and to what extent small wine firms characterized by a high *terroir*-orientation adopt and implement innovation and explore the relationship between the different dimensions of innovation and the firms' perception to be innovative.

To achieve this scope and answer to the research questions, the current dissertation used data from a survey carried out among 177 wine firms in Campania Region.

The case of the wine industry in Campania Region is of interest because it enables the study of innovation practices, ranging from technical change and renovation to knowledge acquisition, in a traditional sector and in a region that has a long-lasting history in the viticulture process and still able to preserve some degree of competitiveness.

Campania Region was chosen for the first empirical test of this study because, although it is not one of the most productive regions on national scale, its recent figures reveal an ever-increasing growth recording year-by-year positive performances. In this perspective, for Campania wine region the growth opportunities are very wide.

From the empirical investigation what emerges is that Campania wine firms are mostly family enterprises, strongly linked with the region and its tradition and this reflects on competitive strategy decision-making processes and corresponding practices.

As for the first research question, the analysis has been carried out by defining three different hypotheses. The overriding purpose was to test if wine firms implement some kinds of innovation. Than, once obtained items with a value of *CI min* greater

than 0,5, the study was deepened by just focusing on items, whose values corresponded to "much" (according to the Likert scale). This led to recognize as really significative the following innovation proxies: PR5 – Use of barriques during the fermentation and/or conservation processes; PR7 – Installation of new refrigeration devices at the various stage of vinification; MK3 – Organization of winery tours, food and wine tastings, cultural events; MK5 – Increase of visibility through in-store merchandising activities; SY2 – Reciprocity in sharing know-how with competitors.

The empirical analysis referred to RQ1 ran out by testing whether, among the most innovative wine firms, the implemented innovation tends to be marginal or, as opposite, notheworthy. The findings show that those firms that implement innovation can *de facto* be considered as "big innovators", since they have a propensity for attributing to the selected itmes a remarkable importance.

With reference to the second research question, three different clusters of firms were identified. The "low innovation cluster" is composed by 102 sampled wine firms. This means that the majority of the sampled wine firms pay little attention to the introduction of innovation at different stages. The "medium innovation cluster" includes 56 firms, while the last one that is the "high innovation cluster" is characterized by 19 wine firms. What emerges from this analysis is that most of firms implement a low degree of innovation, since they rely on an artisanal approach. However, in this specific case, tradition does not stand for making wine in the old way, but it can be conceived as a *passepartout* for searching in the past in order to innovate.

Finally, as far as the third research question is concerned, in order to test the theoretical model (par. 2.5), the SEM technique has been implemented.

The findings show that firms perceive themselves as significantly innovative when introducing technological (product and process) innovation. The same does not happen when introducing the other selected innovation dimensions (marketing/organizational, external sources of knowledge and systemic innovation).

Overall, it can be affirmed that as the Campania wine industry is at an early stage of development, continuous innovation is crucial for its development.

Furthermore, this study is relatively small and should be exploratory in this field in Campania Region. However, since there has been no previous examination in Campania, which attempted to provide a categorization of firms by innovation in the wine industry, this study should mark an important contribution to knowledge in the area.

4.6 Limits and hints for further studies

Some limitations do not allow considering the conclusions of this research project as universally valid or recognizable.

Firstly, the survey seeks to capture information on the topic of innovation, asking the wine firms to state whether some kinds of innovation were introduced during the previous three years. Nonetheless, it would be of great support to replicate the study in the future years, in order to provide the research with a longitudinal approach.

Secondly, the case study has been conducted on the Campania Region: the choice to focus on this region derives both from the fact that the culture of the wine in this context boasts ancient origins and traditions (Campania is one of the most ancient areas where the grapevine was cultivated, and still today – in the framework of the international wine-growing systems – is characterized by the presence of old vine varieties in many vineyards) and from the expectation (based on official data provided by ISTAT- National Institure for Statistics) that Campania wine region will count on huge growth opportunities, in terms of innovation outcomes. Hence, the main challenge is to understand if and to what extent wine firms characterized by a long-lasting tradition can implement innovative formula to compete in international markets. However, caution should be taken in generalizing the findings since not all regions and/or countries face similar wine growing and development conditions. In this sense, it could be useful to repeat the research through a multiple case study analysis, in order to carry out the empirical investigation on different contexts, possibly with a cross-country approach.

Another limitation regards the fact that the demand-side perspective has not been examined. Therefore, a crucial hint for further research may be to deepen both offer and demand-side simultaneously. In particular, it would be of great interest to explore the link between the consumers' purchase decisions and the innovative practices implemented by wine firms.

In ordert to answer to the second research question, a descriptive methodology, i.e. cluster analysis, rather than a more robust technique has been adopted. Cluster analysis presents several limitations, above all based on the identification of cluster boundary and on the selection of the dependent variable (Punj and Stewart, 1983). In

this study, it has been used in order to improve clearness and readability of the findings for scholars, managers, and policy makers. Hence, researchers could introduce a more thorough technique, such as a multiple regression model, useful for evaluating the effect of innovation predictors on performance. Indeed, among the principal research constraints, there is the lack of performance data contained in the dataset. Accordingly, it is not possible to state the fit between the different modes of innovation and business performance, in terms of profitability, revenue growth, etc.

Overall, researchers could contribute to a richer conceptualization with the aim to understand better the dimensions of innovation through which wine firms could seek differentiation, thus obtaining a sustainable competitive advantage over other wine firms operating both in the same geographical area (Campania region) and in the national/international contexts.

REFERENCES

Acs, Z. J., and Audretsch, D. B. (1988). Innovation in large and small firms: an empirical analysis. *The American Economic Review*, 678-690.

Aizenman, J., and Brooks, E. (2008). Globalization and taste convergence: the cases of wine and beer. *Review of International Economics*, *16*(2), 217-233.

Alant, K., and Bruwer, J. (2004). Wine tourism behaviour in the context of a motivational framework for wine regions and cellar doors. *Journal of Wine Research, 15*(1), 27-37.

Alfranca, O., Rama, R., and von Tunzelmann, N. (2005). Innovation in food and beverage multinationals. *Multinational Agribusinesses*, 13-50.

Alonso, A. D. (2013). Tannat: the positioning of a wine grape as symbol and 'referent'of a nation's gastronomic heritage. *Journal of Heritage Tourism*, *8,* (2-3), 105-119.

Alonso, A.D., and Northcote, J. (2009). Wine, history, landscape: origin branding in Western Australia. *British Food Journal*, *111* (11), 1248-1259.

Alreck, P. A., and Settle, R. B. (1985). *The survey research handbook. Homewood,* IL: Irwin.

Amabile, T. M. (1997). Motivating creativity in organizations: On doing what you love and loving what you do. *California Management Review*, *40*(1), 39-58.

Amabile, T. M., Conti, R., Coon, H., Lazenby, J., and Herron, M. (1996). Assessing the work environment for creativity. *Academy of Management Journal*, *39*(5), 1154-1184.

Anderson, K., (2001). *The globalization (and regionalization) of wine*. CIES/university of Adelaide discussion paper.

Anderson, K., (2011). 'Contributions of the Innovation System to Australia's Wine Industry Growth', Ch. 4 in *Innovation and Technological Catch-Up: The Changing Geography of Wine Production,* edited by E. Giuliani, A. Morrison and R. Rabellotti, Cheltenham UK: Edward Elgar, 2011.

Anderson, K., and Nelgen, S. (2011)."Wine's Globalization: New Opportunities, New Challenges Wine" *Wine Economics Research Centre*. Working Paper No. 111, University of Adelaide.

Anderson, K., Norman, D., and Wittwer, G. (2003). Globalisation of the world's wine markets. *The World Economy*, *26*(5), 659-687.

Ansoff, H. I., and Stewart J. M. (1967). Strategies for a technology-based business. *Harvard Business Review, 45*, 71-83.

Armbruster, H., Bikfalvi, A., Kinkel, S., and Lay, G. (2008). Organizational innovation: The challenge of measuring non-technical innovation in large-scale surveys. *Technovation*, *28*, 644–657.

Armbruster, H., Kirner, E., Lay, G., Szwejczewski, M., Corita, B., and Leguehennec, C., (August). Patterns of organisational change in European industry (PORCH). *Ways to strengthen the empirical basis of Research and Policy. DG Enterprise and Industry: Innovation policy unit*. Final Report. Karlsruhe: Institute Systems and Innovation Research.

Arocena, R., and Sutz, J. (2000). Looking at national systems of innovation from the South. *Industry and Innovation, 7*(1), 55-75.

Arora, R., and Stoner, C. (2009). A mixed method approach to understanding brand personality. *Journal of Product & Brand Management*, *18*(4), 272-283.

Arthur, W. B., (2001) "How growth builds upon growth in high-technology", *Annual Sir Charles Carter Lecture*, Northern Ireland Economic Council, Belfast, Northern Ireland.

Asero, V., and Patti, S. (2009), From wine production to wine tourism experience: the case of Italy', *American Association of Wine Economists*. *Working Paper* No. 52.

Asero, V., and Patti, S. (2011). Wine tourism experience and consumer behavior: The case of Sicily. *Tourism Analysis, 16*(4), 431-442.

Atkin, T., Gilinsky Jr, A., and Newton, S. K. (2012). Environmental strategy: does it lead to competitive advantage in the US wine industry?. *International Journal of Wine Business Research*, *24*(2), 115-133.

Atwal, G., and Williams, A. (2012). Is this Shangri-La? The case for authenticity in the Chinese and Indian hospitality industry. *Journal of Brand Management*, *19*(5), 405-413.

Atwal, G., and Williams, A. (2017). "Luxury brand marketing–the experience is everything!". In Advances in *Luxury Brand Management* (pp. 43-57). Palgrave Macmillan, Cham.

Audretsch, B. (1998). Agglomeration and the location of innovative activity. *Oxford Review of Economic Policy, 14*(2), 18-29.

Aurand, J.M. (2016). The major challenges of the vitivinicultural sector: role and strategy of the OIV. International Organization of Vine and Wine (OIV). Online report accessed 29 May 2017 http://www.clavecongres.com/download/ENOLOGIA%20%2006%20nov/09h10%20%20Tendência%20do%20mercado%20mundial%20do%20vinho%20e%20suco%20-%20Jean%20-%20Marie%20Aurand%20-%20França.pdf.

Avermaete, T. (2002), "Systems of innovation: the case of small food firms in the EU", paper presented at the *DRUID PhD Winter Conference*, 17-19 January, Aalborg, Denmark, available at: http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.508.7623&rep=rep1&type=pdf (accessed 3 September 2017).

Avermaete, T., Viaene, J., Morgan, E. J., and Crawford, N. (2003). Determinants of innovation in small food firms. *European Journal of Innovation Management*, *6*(1), 8-17.

Avermaete, T., Viaene, J., Morgan, E. J., Pitts, E., Crawford, N., and Mahon, D. (2004). Determinants of product and process innovation in small food manufacturing firms. *Trends in Food Science & Technology*, *15*(10), 474-483.

Aylward, D. (2004). Innovation–export linkages within different cluster models: a case study from the Australian wine industry. *Prometheus*, *22*(4), 423-437.

Aylward, D. (2005). Global Landscapes: A speculative assessment of emerging organizational structures within the international wine industry. *Prometheus*, *23*(4), 421-436.

Aylward, D. (2006). Innovation lock‐in: unlocking research and development path dependency in the Australian wine industry. *Strategic Change*, *15*(7‐8), 361-372.

Aylward, D. K. (2003). A documentary of innovation support among New World wine industries. *Journal of Wine Research*, *14*(1), 31-43.

Aylward, D., and Turpin, T. (2003). New Wine in Old Bottles: A Case Study of Innovation Territories in" New World" Wine Production. *International Journal of Innovation Management*, *7*(4), 501-525.

Baker, W. E., and Sinkula, J. M. (2005). Environmental marketing strategy and firm performance: Effects on new product performance and market share. *Journal of the Academy of Marketing Science*, *33*(4), 461-475.

Balestrini, P., and Gamble, P. (2006). Country-of-origin effects on Chinese wine consumers. *British Food Journal*, *108*(5), 396-412.

Banks, G., and Overton, J. (2010). Old world, new world, third world? Reconceptualising the worlds of wine. *Journal of Wine Research*, *21*(1), 57-75.

Baregheh,A., Rowley,J., and Sambrook,S. (2009). Towards a multidisciplinary definition of innovation. *Management Decision*, *47*(8), 1323-1339.

Barham, E. (2003). Translating terroir: the global challenge of French AOC labeling. *Journal of Rural Studies*, *19*(1), 127-138.

Barney, J. B. (1991). Firm resources and sustained competitive advantage, *Journal of Management* (17), 99-120.

Baron, R. A., and Tang, J. (2011). The role of entrepreneurs in firm-level innovation: Joint effects of positive affect, creativity, and environmental dynamism. *Journal of Business Venturing, 26*(1), 49-60.

Battisti, G., and Stoneman, P. (2010). How innovative are UK firms? Evidence from the fourth UK community innovation survey on synergies between technological and organizational innovations. *British Journal of Management, 21*(1), 187-206.

Becheikh, N., Landry, R., and Amara, N. (2006). Lessons from innovation empirical studies in the manufacturing sector: A systematic review of the literature from 1993–2003. *Technovation, 26*(5), 644-664.

Beebe, C., Haque, F., Jarvis, C., Kenney, M., and Patton, D. (2013). Identity creation and cluster construction: the case of the Paso Robles wine region. *Journal of Economic Geography*, *13*(5), 711-740.

Bell, E. and Willmott, H. (2015) "Editor's Introduction: Qualitative Research – Themes and Prospects", in Bell, E. and Willmott, H. (Eds.) *Major Works in Qualitative Research in Business and Management*. London: Sage.

Bellia, C. and Pilato, M. (2013) Competitiveness of wine business within green economy, *Quality – Access to Success*, *14*, S3, pp.120–124.

Belussi, F., Sammarra, A., and Sedita, S. R. (2010). Learning at the boundaries in an "Open Regional Innovation System": A focus on firms' innovation strategies in the Emilia Romagna life science industry. *Research Policy*, *39*(6), 710-721;

Benfratello, L., Piacenza, M., and Sacchetto, S. (2009). Taste or reputation: what drives market prices in the wine industry? Estimation of a hedonic model for Italian premium wines. *Applied Economics, 41*(17), 2197-2209.

Benz, C. R., and Newman, I. (2008). *Mixed methods research: Exploring the interactive continuum*. SIU Press.

Berthon, P., Pitt, L., Parent, M., and Berthon, J.P. (2009). Aesthetics and ephemerality: observing and preserving the luxury brand. *California Management Review, 52*, 45–66.

Bertozzi, L. (1998). “Tipicidad alimentaria y dieta mediterranea”. In A. Medina, F. Medina, and G. Colesanti (Eds.), *El color de la alimentacion mediterranea. Elementos sensoriales yculturales de la nutricio*n (pp. 15–41). Barcelona: Icaria.

Bessant, J., Lamming, R., Noke, H., and Phillips, W. (2005). Managing innovation beyond the steady state. *Technovation, 25*(12), 1366-1376.

Beverland, M. (2004). Uncovering “theories-in-use”: building luxury wine brands. *European Journal of Marketing*, *38*(3/4), 446-466.

Beverland, M. (2006). The ‘real thing’: Branding authenticity in the luxury wine trade. *Journal of Business Research*, *59*(2), 251-258.

Beverland, M., and Lockshin, L. S. (2001). Organizational life cycles in small New Zealand wineries. *Journal of Small Business Management*, 39(4), 354-362.

Bierly, P., and Chakrabarti, A. K. (1999). Managing through industry fusion. In *The Dynamics of Innovation* (pp. 3-26). Springer, Berlin, Heidelberg.

Bigliardi, B., and Dormio, I. A. (2009). An empirical investigation of innovation determinants in food machinery enterprises. *European Journal of Innovation Management, 12*(2), 223-242.

Bigliardi, B., and Galati, F. (2013). Innovation trends in the food industry: the case of functional foods. *Trends in Food Science & Technology*, *31*(2), 118-129.

Bisson, L. F. (2012). Geographic origin and diversity of wine strains of Saccharomyces. *American Journal of Enology and Viticulture, 63*(2), 165-176.

Bonnekessen, B. (2010). Food is good to teach: An exploration of the cultural meanings of food. *Food, Culture & Society*, *13*(2), 279-295.

Bonnemaison, J., Blanc-Pamard, C., Lasseur, M., and Thibault, C. (2005). *Culture and space: conceiving a new cultural geography* (J. Pénot-Demetry, Trans.). London: I. B.Tauris.

Borch, O. J., and Forsman, S. (2000, June). The competitive tools and capabilities of micro firms in the Nordic food sector-a comparative study. In *The food sector in transition-Nordic Research. Proceedings of NJF-seminar* (No. 313, pp. 2001-2).

Borsellino, V., Galati, A., and Schimmenti, E. (2012). Survey on the innovation in the Sicilian grapevine nurseries. *Journal of Wine Research*, *23*(1), 1-13.

Bortoluzzi, G., de Luca, P., Venier, F., and Balboni, B. (2015). Innovation scope and the performance of the firm: empirical evidence from an Italian wine cluster. In *Handbook of Research on Global Business Opportunities* (pp. 551-568). IGI Global.

Bougheas, S. (2004). Internal vs external financing of R&D. *Small Business Economics, 22*(1), 11-17.

Brasili, C., and Fanfani, R. (2007, April). A mosaic type of development — the Agri-food Districts experience in Italy. Paper presented at the I Mediterranean Conference of Agro- Food Social Scientists, *103rd EAAE Seminar*, Adding Value to the Agro-Food Supply Chain in the Future Euromediterranean Space, Barcelona, Spain.

Breschi, S. (1999). Spatial patterns of innovation: evidence from patent data. *The Organization of Economic Innovation in Europe*, 71-102.

Breschi, S., and Malerba, F. (1997). Sectoral innovation systems: technological regimes, Schumpeterian dynamics, and spatial boundaries. *Systems of innovation: Technologies, Institutions and Organizations*, 130-156.

Bresciani, S., Thrassou, A., and Vrontis, D. (2013). Change through innovation in family businesses: evidence from an Italian sample. *World Review of Entrepreneurship, Management and Sustainable Development 4*, *9*(2), 195-215.

Brown, S. (1999), Retro-marketing: yesterday's tomorrows, today!, *Marketing Intelligence and Planning, 17*, 7, 363-376.

Brunori, G., and Rossi, A. (2000). Synergy and coherence through collective action: some insights from wine routes in Tuscany. *Sociologia Ruralis*, *40*(4), 409-423.

Brunswicker, S. and Van de Vrande, V. (2014) "Exploring Open Innovation in Small and Medium-Sized Enterprises". In: Chesbrough, H., Vanhaverbeke, W., and West, J. (Eds.). *New Frontiers in Open Innovation*. Oxford: Oxford University Press, 135-156.

Brunswicker, S., and Hutschek, U. (2010). Crossing horizons: leveraging cross-industry innovation search in the front-end of the innovation process. *International Journal of Innovation Management*, *14*(04), 683-702.

Bruwer, J. (2014). Service quality perception and satisfaction: buying behaviour prediction in an Australian festivalscape. *International Journal of Tourism Research*, *16*(1), 76-86.

Bruwer, J., and Alant, K. (2009). The hedonic nature of wine tourism consumption: an experiential view. *International Journal of Wine Business Research*, *21*(3), 235-257.

Bruwer, J., and Lesschaeve, I. (2012). Wine tourists' destination region brand image perception and antecedents: Conceptualization of a winescape framework. *Journal of Travel & Tourism Marketing, 29*(7), 611-628.

Burgelman, R. A. (1983). Corporate entrepreneurship and strategic management: Insights from a process study. *Management Science, 29*(12), 1349-1364.

Buysse, K., and Verbeke, A. (2003). Proactive environmental strategies: A stakeholder management perspective. *Strategic Management Journal*, *24*(5), 453-470.

Byrd, E. T., Canziani, B., Hsieh, Y. C. J., Debbage, K., and Sonmez, S. (2016). Wine tourism: Motivating visitors through core and supplementary services. *Tourism Management, 52*, 19-29.

Camagni, R. (1991): *Innovation Networks: Spatial Perspectives*. London, New York: Belhaven Press.

Camisón, C., and Villar-López, A. (2014). Organizational innovation as an enabler of technological innovation capabilities and firm performance. *Journal of Business Research, 67*(1), 2891-2902.

Cannon, T. (1985). Innovation, Creativity and Small Firm Organization. *International Small Business Journal, 4* (1), 33–41.

Capaldo, A., and Petruzzelli, A. M. (2014). Partner geographic and organizational proximity and the innovative performance of knowledge‐creating alliances. *European Management Review, 11*(1), 63-84.

Capello, R., and Faggian, A. (2005). Collective learning and relational capital in local innovation processes. *Regional Studies, 39*(1), 75-87.

Capitanio F, Coppola A and Pascucci S (2010) Product and process innovation in the Italian food industry. *Agribusiness: An International Journal* 26: 503–518.

Capitanio, F., Coppola, A., and Pascucci, S. (2009). Indications for drivers of innovation in the food sector. *British Food Journal*, *111*(8), 820-838.

Capraro, Robert M. (2007). "Significance level". In Salkind, Neil J. *Encyclopedia of Measurement and Statistics*. 3. Thousand Oaks, CA: SAGE Publications, 889–891.

Caraça, J. M. G., Lundvall, B. A., and Mendonça, S. (2009). The changing role of science in the innovation process: from Queen to Cinderella? *Technological Forecasting and Social Change, 76*(6), 861–867.

Carayannis, E. G., Gonzalez, E., and Wetter, J. (2003). "The nature and dynamics of discontinuous and disruptive innovations from a learning and knowledge management perspective". *The International Handbook on Innovation*, (Part II).

Carlile, P. R. (2002). A pragmatic view of knowledge and boundaries: Boundary objects in new product development. *Organization Science, 13*(4), 442-455.

Carlsen, J., and Dowling, R. (2001). Regional wine tourism: a plan of development for Western Australia. *Tourism Recreation Research*, *26*(2), 45-52.

Carlsen, P. J. (2004). A review of global wine tourism research. *Journal of Wine Research*, 15(1), 5-13.

Carmichael, B. (2005). Understanding the wine tourism experience for winery visitors in the Niagara Region, Ontario, Canada. *Tourism Geographies, 7*(2), 185-204;

Cassi, L., Morrison, A., and Rabellotti, R. (2011). The changing geography of science in wine: evidence from emerging countries. *Innovation and Catching Up: The Changing Geography of Wine Production, Cheltenham, Edward Elgar*, 43-69.

Castellano, S. and Khelladi, I. (2016). How French wine producers use open innovation to gain and manage their legitimacy. *Journal of Knowledge Economy, 7*(1): 155–171.

Castellano, S., Ivanova, O., Adnane, M., Safraou, I., and Schiavone, F. (2013). Back to the future: adoption and diffusion of innovation in retro-industries. *European Journal of Innovation Management, 16*(4), 385-404.

Chaganti, R., Chaganti, R., and Mahajan, V. (1989). Profitable small business strategies under different types of competition. *Entrepreneurship Theory and Practice, 13*(3), 21-35.

Chakrapani, C. (2004). Statistics in market research. Arnold Publisher, London

Charters, S. (2006). *Wine & Society: The Social and Cultural Context of a Drink*. Oxford: Elsevier Butter-worth-Heinemann.

Charters, S., and Ali-Knight, J. (2002). Who is the wine tourist?. *Tourism Management, 23*(3), 311-319.

Charters, S., and Spielmann, N. (2014). Characteristics of strong territorial brands: The case of champagne. *Journal of Business Research, 67*(7), 1461-1467.

Chebbi, H., Yahiaoui, D., Thrassou, A., and Vrontis, D. (2013). The exploration activity's added value into the innovation process. *Global Business and Economics Review, 15*(2-3), 265-278.

Chesbrough, H. (2003). *Open Innovation: The New Imperative for Creating and Profiting from Technology*. Boston, MA: Harvard Business School Press.

Chesbrough, H. (2006). Open innovation: A new paradigm for understanding industrial Innovation. In: Chesbrough H, Vanhaverbeke W and West J (eds) *Open Innovation: Researching a New Paradigm*. London: Oxford University Press, pp.1–

27.

Chesbrough, H., Vanhaverbeke, W. and West, J. (2006). *Open Innovation: Researching a New Paradigm*. London: Oxford University Press.

Chesbrough, H. W., and Appleyard, M. M. (2007). Open innovation and strategy. *California Management Review, 50*(1), 57-76.

Chetty, S. (1996). The case study method for research in small-and medium-sized firms. *International Small Business Journal*, *15*(1), 73-85.

Chiffoleau, Y., and Touzard, J. M. (2014). Understanding local agri-food systems through advice network analysis. *Agriculture and Human Values*, *31*(1), 19-32.

Chin, W. W. (1998). The partial least squares approach to structural equation modeling. *Modern Methods for Business Research*, *295*(2), 295-336.

Chirico, F., and Nordqvist, M. (2010). Dynamic capabilities and trans-generational value creation in family firms: The role of organizational culture. *International Small Business Journal, 28*(5), 487-504.

Chirico, F., and Salvato, C. (2008). Knowledge integration and dynamic organizational adaptation in family firms. *Family Business Review*, *21*(2), 169-181.

Chong, S. (2014). Business process management for SMEs: an exploratory study of implementation factors for the Australian wine industry. *Journal of Information Systems and Small Business, 1*(1-2), 41-58.

Christensen JF, Oleson MH and Kjær JS (2005) The industrial dynamics of open innovation: Evidence from the transformation of consumer electronics. *Research Policy, 34*(10): 1533–1549.

Christoffersen, S. (2013). Product development with immersion: multidisciplinary teams in study abroad. *Review of Management Innovation & Creativity*, *6*(18). 130-146.

Ciliberti, S., Carraresi, L., and Bröring, S. (2016). Drivers of innovation in Italy: food versus pharmaceutical industry. *British Food Journal, 118*(6), 1292-1316.

Cohen, E. (2009). Applying best-worst scaling to wine marketing. *International Journal of Wine Business Research*, *21*(1), 8-23.

Cohen, E., and Ben-Nun, L. (2009). The important dimensions of wine tourism experience from potential visitors' perception. *Tourism and Hospitality Research, 9*(1), 20-31.

Cohen, W. and Levinthal, D. (1990) Absorptive capacity: A new perspective on learning and innovation. *Administrative Science Quarterly* 35(1): 128–152.

Contò, F. and Lopez, A. (2008), Organizzazione territoriale e sviluppo locale nell'area dell'Alto Tavoliere. Capitale umano e territori intelligenti nell'esperienza del Distretto Agroalimentare del Tavoliere, FrancoAngeli, Milano.

Contò, F., Vrontis, D., Fiore, M., and Thrassou, A. (2014). Strengthening regional identities and culture through wine industry cross border collaboration. *British Food Journal, 116*(11), 1788-1807.

Cooke, P. (2004). The role of research in regional innovation systems: new models meeting knowledge economy demands. *International Journal of Technology Management, 27*, 1, 26.

Corrocher, N., Malerba, F., and Montobbio, F. (2007). Schumpeterian patterns of innovative activity in the ICT field. *Research Policy, 36*(3), 418-432.

Corsi, A. M., Overton, S. R., and Casini, L. (2014). The impact of the new wine common market organization (CMO) on behavioural loyalty towards product

attributes: A case from Italy. *Journal of Consumer Behaviour, 13*(4), 231-241.

Craig, J. B., and Moores, K. (2006). A 10-year longitudinal investigation of strategy, systems, and environment on innovation in family firms. *Family Business Review*, *19*(1), 1-10.

Creswell, J. W. (2009). Mapping the field of mixed methods research. *Journal of Mixed Methods Research, 3*, 95-108.

Creswell, J.W. (2015). *A concise introduction to mixed methods research*. Sage Publications.

Crossan, M. M., and Apaydin, M. (2010). A multi‐dimensional framework of organizational innovation: A systematic review of the literature. *Journal of Management Studies, 47*(6), 1154-1191.

Crowley, W. K., 2000. Chile's wine industry: historical character and changing geography. In: *Yearbook, Conference of Latin Americanist Geographers*, 87–101.

Crowther, D. and Lancaster, G. (2009). *Research Method*. 2nd ed. Oxford. UK: Jordan Hill.

Cumming, G., and Finch, S. (2005). Inference by eye: confidence intervals and how to read pictures of data. *American Psychologist*, *60*(2), 170.

Cumming, Geoff (2012). Understanding The New Statistics: Effect Sizes, Confidence Intervals, and Meta-Analysis. New York, USA: Routledge. pp. 27–28.

Cusmano, L., Morrison, A., and Rabellotti, R. (2010). Catching up trajectories in the wine sector: A comparative study of Chile, Italy, and South Africa. *World Development, 38*(11), 1588-1602.

Cusmano, L., Morrison, A., and Rabellotti, R. (2011). Catching-up trajectories in the wine sector. *Innovation and Technological Catch-Up: The Changing Geography of Wine Production*, 17-42.

Cwiertka, K. J., and Walraven, B. (Eds.). (2002). *Asian food: the global and the local*. Surrey, UK: Curzon.

Dahlander, L., and Gann, D. M. (2010). How open is innovation?. *Research Policy*, *39*(6), 699-709.

Dalitz, R. (2009). The multiple roles of the Australian wine show system. *Journal of Wine Research, 20*(3), 231-251.

Damanpour, F. (1996). Organizational complexity and innovation: developing and testing multiple contingency models. *Management Science, 42*(5), 693-716.

Damanpour, F., and Schneider, M. (2006). Phases of the adoption of innovation in organizations: Effects of environment, organization and top managers. *British journal of Management, 17*(3), 215-236.

Dana, L. P., and Dana, T. E. (2005). Expanding the scope of methodologies used in entrepreneurship research. *International Journal of Entrepreneurship and Small Business*, *2*(1), 79-88.

Data & Trends of the European Food and Drink Industry (2016). Online version accessed 12 July 2017 http://www.fooddrinkeurope.eu/uploads/publications_documents/Data_and_trends_Interactive_PDF_NEW.pdf.

De Jong JPJ and Freel M (2010) Absorptive capacity and the reach of collaboration in high technology small firms. *Research Policy* 39(1): 47–54.

De Jong, J. P., and Vermeulen, P. A. (2006). Determinants of product innovation in small firms: A comparison across industries. *International Small Business Journal*, *24*(6), 587-609.

De Massis, A., Frattini, F., Kotlar, J., Petruzzelli, A. M., and Wright, M. (2016). Innovation through tradition: lessons from innovative family businesses and directions for future research. *The Academy of Management Perspectives, 30*(1), 93-116.

de Noronha Vaz, M. T., and Nicolas, F. M. (2000, January). Innovation in small firms and dynamics of local development. In *Workshop ISEG* (Vol. 24, p. 25).

De Propris, L. (2000). Innovation and inter-firm co-operation: The case of the West Midlands. *Economics of Innovation and New Technology, 9*(5), 421-446.

Deeds, D. L. (2001). The role of R&D intensity, technical development and absorptive capacity in creating entrepreneurial wealth in high technology start-ups. *Journal of Engineering and Technology Management, 18*(1), 29-47.

Dell'Era, C., and Bellini, E. (2009). How can product semantics be embedded in product technologies? The case of the Italian wine industry. *International Journal of Innovation Management, 13*(03), 411-439.

Della Corte, V., and Del Gaudio, G. (2017). Entrepreneurial Creativity: Sources, Processes and Implications. *International Journal of Business and Management*, *12*(6), 33.

Demossier, M. (2010). *Wine Drinking Culture in France: A National Myth or a Modern Passion.* Cardiff: University of Wales Press.

Demossier, M. (2011). Beyond terroir: territorial construction, hegemonic discourses, and French wine culture. *Journal of the Royal Anthropological Institute, 17*(4), 685-705.

Denzin, N.K. (1978). *The research act: A theoretical orientation to sociological methods* (2nd ed.). New York: McGraw-Hill.

Di Stefano, G., Gambardella, A., and Verona, G. (2012). Technology push and demand pull perspectives in innovation studies: Current findings and future research directions. *Research Policy*, *41*(8), 1283-1295.

Di Vita, G., Bellia, C., Pappalardo, G., and D'Amico, M. (2013). The Role of Innovation and Organization in Small Size Wineries: The Case of Malvasia delle Lipari PDO Wine1. *Calitatea*, *14*(137), 107.

Diederen, P., van Meijl, H., and Wolters, A. (2002). Innovation and farm performance: the case of Dutch agriculture. In *Innovation and Firm Performance* (pp. 73-85). Palgrave Macmillan UK.

DiMaggio, P. (1997). Culture and cognition. *Annual Review of Sociology*, *23*(1), 263-287.

Ditter J. 2005. Reforming the French wine industry: could clusters work? *Cahirs du Ceren*, *13*, 39-54.

Dodgson, M., and Hinze, S. (2000). Indicators used to measure the innovation process: defects and possible remedies. *Research Evaluation, 9*(2), 101-114.

Dollet, J., Díaz, A., and Solís, L. (2010). Supply networks for luxury items – a study of the alcoholic beverage sector. In *Proceedings of 4th International Conference of Operations and Supply Chain Management.*

Doloreux, D., and Lord-Tarte, E. (2013). The organisation of innovation in the wine industry: Open innovation, external sources of knowledge and proximity. *European Journal of Innovation Management*, *16*(2), 171-189.

Dosi, G. (1988). Sources, procedures, and microeconomic effects of innovation. *Journal of Economic Literature*, 1120-1171.

Dries, L., Pascucci, S., Török, Á., and Tóth, J. (2013). Open innovation: a case-study of the Hungarian wine sector. *EuroChoices*, *12*(1), 53-59.

Dries, L., Pascucci, S., Török, Á., and Tóth, J. (2014). Keeping your secrets public? Open versus closed innovation processes in the Hungarian wine sector. *International Food and Agribusiness Management Review*, *17*(1), 147-162.

Drivas, K., and Giannakas, K. (2006, July). The effect of cooperatives on product innovation in the agri-food system. In *American Agricultural Economics Assocation Annual Meeting*.

Du Plessis, M. (2007). The role of knowledge management in innovation. *Journal of Knowledge Management, 11*(4), 20-29.

Dubois, B., Laurent, G., and Czellar, S. (2001). *Consumer rapport to luxury: Analyzing complex and ambivalent attitudes* (Vol. 736). Jouy-en-Josas: Groupe HEC.

Duval, J. (1993). And how does it get there?, *Quality Australia*, 23 – 28.

Earle, T. K. (1997*). How chiefs come to power: the political economy in prehistory*. Stanford University Press.

Edquist, C., ed. (1997) *Systems of Innovation: Technologies, Institutions, and Organizations*. London (UK): Pinter Publishers.

Efron, B., and Tibshirani, R. (1998). The problem of regions. *The Annals of Statistics*, *26*(5), 1687-1718.

Eisenhardt, K. M. (1989). Building theories from case study research. *Academy of Management Review*, *14*(4), 532-550.

Enkel, E., and Bader, K. (2015). Why do experts contribute in cross-industry innovation? A structural model of motivational factors, intention and behavior. *R&D Management, 46*(S1), 207-226.

Enkel, E., and Gassmann, O. (2010). Creative imitation: exploring the case of cross-industry innovation. *R&d Management*, *40*(3), 256-270.

Enzing, C., Pascucci, S., Janszen, F., and Omta, O. (2011). Role of open innovation in the short-and long-term market success of new products: evidence from the Dutch food and beverages industry. *Journal on Chain and Network Science, 11*(3), 235-250.

Escribano, A., Fosfuri, A., and Tribó, J. A. (2009). Managing external knowledge flows: The moderating role of absorptive capacity. *Research Policy, 38*(1), 96-105.

Esposito Vinzi, V., Trinchera, L., and Amato, S. (2010). "PLS Path Modeling: From Foundations to Recent Developments and Open Issues for Model Assessment and Improvement." In V. Esposito Vinzi, W.W. Chin, J. Henseler, H.F. Wang (eds.), *Handbook of Partial Least Squares: Concepts, Methods and Applications in Marketing and Related Fields,* chapter 2, pp. 47–82. Springer-Verlag, Berlin.

Falk, R.F. and Miller, N.B. (1991). "A soft model approach to family transitions". In Cowan, P.A. and Hetherington E.M. Hilsdale (eds.). *Family Transitions*, pp. 273-301. NJ: Lawrence Bribaum.

Famularo, B., Bruwer, J., and Li, E. (2010). Region of origin as choice factor: wine knowledge and wine tourism involvement influence. *International Journal of Wine Business Research, 22*(4), 362-385.

Farinelli, F. (2016). Building innovation capacity of local actors: The case of the Chilean and Argentine wine industries. In Francis, J., Mytelka, L., van Huis, A. and

Rolling, N. (Eds.), *Innovation Systems: Towards Effective Strategies in support of Smallholder Farmers*, 61-73.

Felin, T., and Hesterly, W. S. (2007). The knowledge-based view, nested heterogeneity, and new value creation: Philosophical considerations on the locus of knowledge. *Academy of Management Review, 32*(1), 195-218.

Fensterseifer, E. J. (2007). The emerging Brazilian wine industry: challenges and prospects for the Serra Gaúcha wine cluster. *International Journal of Wine Business Research, 19*(3), 187-206.

Fertő, I., Molnár, A., and Tóth, J. (2016). Borderless ideas–open innovation in the Hungarian food chain. *British Food Journal, 118*(6), 1494-1515.

Festa, G., Vrontis, D., Thrassou, A., and Ciasullo, M. V. (2015). A value co-creation model for wine tourism. *International Journal of Management Practice, 8*(3), 247-267.

Filiputti, W. (1997). Il Friuli-Venezia Giulia e i suoi grandi vini. Storie di uomini e vigneti. Udine (Italy):Gianfranco Angelico Benvenuto Editore.

Fillis, I. (2001). Small firm internationalisation: an investigative survey and future research directions. *Management Decision, 39*(9), 767-783.

Fillis, I., and Rentschler, R. (2010). The role of creativity in entrepreneurship. *Journal of Enterprising Culture, 18*(01), 49-81.

Fischer, C., and Gil-Alana, L. A. (2009). The nature of the relationship between international tourism and international trade: the case of German imports of Spanish wine. *Applied Economics, 41*(11), 1345-1359.

Folkerts, H., and Koehorst, H. (1998). Challenges in international food supply chains: vertical co-ordination in the European agribusiness and food industries. *British Food Journal*, *100*(8), 385-388.

Fortuin, F. T., and Omta, S. W. F. (2009). Innovation drivers and barriers in food processing. *British Food Journal*, *111*(8), 839-851.

Frankfort-Nachmias, C. and Nachmias, D. (1996). *Research methods in the social science*. 5th edn. St.

Fraser, R., and Alonso, A. (2006). Do Tourism and Wine Always Fit Together? A Consideration of Business Motivations. In J. Carlsen, and S. Charters (eds.), *Global Wine Tourism* (19-26). CABI.

Freel, M. S. (2000). Barriers to product innovation in small manufacturing firms. *International Small Business Journal*, *18*(2), 60-80.

Freel, M. S. (2005). Patterns of innovation and skills in small firms. *Technovation*, *25*(2), 123-134.

Freel, M., and Robson, P. J. (2017). Appropriation strategies and open innovation in SMEs. *International Small Business Journal, 35*(5), 578-596.

Freeman, C. (1974). "Innovation and the strategy of the firm". *The Economics of Industrial Innovation.* Harmondsworth: Penguin Books, 224-88.

Freeman, C. P., and Perez, C. (1988). C., 1988. "Structural crisis of adjustment, business cycles and investment behaviour". *Technical Change and Economic Theory*. London: Pinter, 38-66.

Frishammar, J., and Åke Hörte, S. (2005). Managing external information in manufacturing firms: The impact on innovation performance. *Journal of Product Innovation Management, 22*(3), 251-266.

Gade, D. (2004), Tradition, territory, and terroir in French viniculture: Cassis, France, and appellation controlee. *Annals of the Association of American Geographers*, *94*, 848-867.

Galizzi, G., and Venturini, L. (2008). Nature and determinants of product innovation in a competitive environment of changing vertical relationships. In R. Rama (Ed.), *Handbook of innovation in the food and drink industry* (pp. 51–80). New York/London: Haworth Press.

Gallucci, C. and Nave, G. (2012), "Family vs Non-Family: un'analisi sulle performance nel wine business". Esperienze d'Impresa: Dipartimento di Studi e Ricerche Aziendali, Università di Salerno, Vol. 2, pp. 49-67.

Garcia, R. and Calantone, R. (2002) A critical look at technological innovation typology and innovativeness terminology: A literature review. *Journal of Product Innovation Management, 19*(2): 110–132.

Gassmann, O. and Zeschy, M. (2008). Opening up the solution space: the role of analogical thinking for breakthrough product innovation. *Creativity and Innovation Management, 17*(2): 97-106.

Gefen, D., Straub, D., and Boudreau, M. C. (2000). Structural equation modeling and regression: Guidelines for research practice. *Communications of the Association for Information Systems*, *4*(1), 7.

Gellynck, X., and Kühne, B. (2008). Innovation and collaboration in traditional food chain networks. *Journal on Chain and Network Science, 8*(2), 121-129.

Gellynck, X., Vermeire, B., and Viaene, J. (2007). Innovation in food firms: contribution of regional networks within the international business context. *Entrepreneurship & Regional Development, 19*(3), 209-226.

Georgiou, T., and Vrontis, D. (2013). Wine sector development: a conceptual framework toward succession effectiveness in family wineries. *Journal of Transnational Management*, *18*(4), 246-272.

Geroski, P. A. (1995). What do we know about entry?. *International Journal of Industrial Organization, 13*(4), 421-440.

Getz, D., and Brown, G. (2006). Critical Success Factors for Wine Tourism Regions: A Demand Analysis. *Tourism Management, 27*, 146–158.

Giacosa, E., Giachino, C., Bertoldi, B., and Stupino, M. (2014). Innovativeness of Ceretto Aziende Vitivinicole: a first investigation into a wine company. *International Food and Agribusiness Management Review, 17*(4), 223.

Gilinsky, A., Santini, C., Lazzeretti, L., and Eyler, R. (2008). Desperately seeking serendipity: Exploring the impact of country location on innovation in the wine industry. *International Journal of Wine Business Research*, *20*(4), 302-320.

Gill, J. and Johnson, P. (1991), *Research Methods for Managers*, Paul Chapman, London.

Ginsburgh, V., Monzak, M., and Monzak, A. (2013). Red wines of Medoc: what is wine tasting worth?. *Journal of Wine Economics, 8*(2), 159-188.

Giuliani, E. (2007). The wine industry: persistence of tacit knowledge or increased codification? Some implications for catching-up countries. International *Journal of Technology and Globalisation, 3*(2-3), 138-154.

Giuliani, E., and Bell, M. (2005). The micro-determinants of meso-level learning and innovation: evidence from a Chilean wine cluster. *Research Policy, 34*(1), 47-68.

Giuliani, E., Morrison, A., and Rabellotti, R. (2011). *Innovation and technological catch-up: The changing geography of wine production*. Edward Elgar Publishing.

Gray, C. (2006). Absorptive capacity, knowledge management and innovation in entrepreneurial small firms. *International Journal of Entrepreneurial Behavior & Research*, *12*(6), 345-360.

Greve, H. R. (2003). A behavioral theory of R&D expenditures and innovations: Evidence from shipbuilding. *Academy of Management Journal, 46*(6), 685-702.

Grunert, K. G. (1997). What's in a steak? A cross-cultural study on the quality perception of beef. *Food Quality and Preference*, *8*(3), 157-174.

Guerrero, L., Claret, A., Verbeke, W., Vanhonacker, F., Enderli, G., Sulmont-Rossé, C., and Guàrdia, M. D. (2012). Cross-cultural conceptualization of the words Traditional and Innovation in a food context by means of sorting task and hedonic evaluation. *Food Quality and Preference, 25*(1), 69-78.

Gunzler, D., Chen, T., Wu, P., and Zhang, H. (2013). Introduction to mediation analysis with structural equation modeling. *Shanghai Archives of Psychiatry*, *25*(6), 390.

Gupta, A. K., Smith, K. G., and Shalley, C. E. (2006). The interplay between exploration and exploitation. *Academy of Management Journal, 49*(4), 693–706.

Gwynne, R. N. (2008). UK retail concentration, Chilean wine producers and value chains. *The Geographical Journal*, *174*(2), 97-108.

Håkansson, H. (1987*). Industrial technological development: a network approach*. London: Croom Helm.

Hall, C. M., and Mitchell, R. (2000). Wine tourism in the Mediterranean: A tool for restructuring and development. *Thunderbird International Business Review, 42*(4), 445-465.

Hall, M., Sharples, L., Cambourne, B., and Macionis, N. (Eds.) (2000*). Wine tourism around the world: Development, management and markets*. Oxford: Butterworth–Heinemann.

Halpern, N. (2010). Marketing innovation: Sources, capabilities and consequences at airports in Europe's peripheral areas. *Journal of Air Transport Management, 16*(2), 52-58.

Hardesty, D. M., and Bearden, W. O. (2004). The use of expert judges in scale development: Implications for improving face validity of measures of unobservable constructs. *Journal of Business Research, 57*(2), 98-107.

Hargadon, A. B. (2002). Brokering knowledge: Linking learning and innovation. *Research in Organizational Behavior*, *24*, 41-85.

Hargadon, A., and Fanelli, A. (2002). Action and possibility: Reconciling dual perspectives of knowledge in organizations. *Organization Science, 13*(3), 290-302.

Harlan, H. W. (2016). The aesthetics and ephemerality of luxury wine. *International Journal of Wine Business Research, 28*(2), 102-104.

Harrington, R. J. (2006). The moderating effects of size, manager tactics and involvement on strategy implementation in foodservice. *International Journal of Hospitality Management, 25*(3), 373-397.

Harrison, J. S., Hitt, M. A., Hoskisson, R. E., and Ireland, R. D. (2001). Resource complementarity in business combinations: Extending the logic to organizational alliances. *Journal of Management, 27*(6), 679-690.

Heunks, F. J. (1998). Innovation, creativity and success. *Small Business Economics, 10*(3), 263-272.

Hibbert, P., and Huxham, C. (2010). The past in play: Tradition in the structures of collaboration. *Organization Studies*, *31*(5), 525-554.

Hickman C., and Padmore T. (2005). The Okanagan Winemaking Cluster. In *Global networks and Local Linkages* edited by D.A. Wolfe and M. Lucas, Montreal and Kingston: McGill-Queen's University Press.

Hirschman, E. C., and Holbrook, M. B. (1982). Hedonic consumption: emerging concepts, methods and propositions. *The Journal of Marketing*, 92-101.

Hoffman, K., Parejo, M., Bessant, J., and Perren, L. (1998). Small firms, R&D, technology and innovation in the UK: a literature review. *Technovation*, *18*(1), 39-55.

Hong, J. Y., and Jeon, J. Y. (2015). Influence of urban contexts on soundscape perceptions: A structural equation modeling approach. *Landscape and Urban Planning*, *141*, 78-87.

Howland, P. (2007). *Pinot pilgrims: Metro-rurality, reflexive distinction & enchanted wine in Martinborough, New Zealand, Association of Social Anthropolgists of the UK and Commonwealth Conference (ASA07: Thinking through tourism)*. London, London Metropolitan University, UK: Association of Social Anthropolgists of the UK and Commonwealth.

Huber, G. P. (1991). Organizational learning: The contributing processes and the literatures. *Organization Science, 2*(1), 88-115.

Huiban, J. P., and Bouhsina, Z. (1998). Innovation and the quality of labour factor: an empirical investigation in the French food industry. *Small Business Economics*, *10*(4), 389-400.

Huizingh, E. K. (2011). Open innovation: State of the art and future perspectives. *Technovation*, *31*(1), 2-9.

Ilbery, B., and Kneafsey, M. (1999). Niche markets and regional speciality food products in Europe: towards a research agenda. *Environment and Planning A*, *31*(12), 2207-2222.

Isaksen, A. and Onsager, K. (2010), Regions, networks and innovative performance: the case of knowledge-intensive industries in Norway, *European Urban and Regional Studies*, *17*, 3, 227-243.

ISTAT, (2016). Accessed 11 July 2017. https://www.istat.it/it/archivio/200091.

ISTAT, (2017). Accessed 3 June 2017. https://www.istat.it/it/archivio/vino.

Jaffe, A. B., Trajtenberg, M., and Henderson, R. (1993). Geographic localization of knowledge spillovers as evidenced by patent citations. *the Quarterly journal of Economics*, *108*(3), 577-598.

Jassawalla, A. R., and Sashittal, H. C. (2002). Cultures that support product-innovation processes. *The Academy of Management Executive*, *16*(3), 42-54.

Jelinek, M. (1979). *Institutionalizing Innovation: A Study of Organizational Learning Systems*, NewYork: Praeger.

Johannessen, J. A., and Olsen, B. (2010). The future of value creation and innovations: Aspects of a theory of value creation and innovation in a global knowledge economy. *International Journal of Information Management*, *30*(6), 502-511.

Johannessen, J. A., Olsen, B., and Lumpkin, G. T. (2001). Innovation as newness:

what is new, how new, and new to whom?. *European Journal of Innovation Management*, *4*(1), 20-31.

Johansson, J.K. (2000), *Global Marketing: Foreign Entry, Local Marketing & Global Managemen*t, Irwin McGraw-Hill Companies, Boston, MAJohne and Davies.

Johnsen, T. E. (2009). Supplier involvement in new product development and innovation: Taking stock and looking to the future. *Journal of Purchasing and Supply Management, 15*(3), 187-197.

Johnson, R. B., Onwuegbuzie, A. J., and Turner, L. A. (2007). Toward a definition of mixed methods research. *Journal of Mixed Methods Research*, *1*(2), 112-133.

Johnson, R., and Bruwer, J. (2007). Regional brand image and perceived wine quality: the consumer perspective. *International Journal of Wine Business Research*, *19*(4), 276-297.

Johnson, R., and Bruwer, J. (2007). Regional brand image and perceived wine quality: the consumer perspective. *International Journal of Wine Business Research*, *19*(4), 276-297.

Jordana, J. (2000). Traditional foods: challenges facing the European food industry. *Food Research International, 33*(3), 147-152.

Kanter, R. M. (1988). Three tiers for innovation research. *Communication Research, 15*(5), 509-523.

Kanter, R. M. (2002). Strategy as improvisational theater. *MIT Sloan Management Review, 43*(2), 76.

Kaplan, D. (2000). Multilevel structural equation modeling. *Structural equation modeling: Foundations and extensions*, 130-148.

Kaplinsky, R., and Fitter, R. (2004). Technology and globalisation: who gains when commodities are de-commodified?. *International Journal of Technology and Globalisation*, *1*(1), 5-28.

Katila, R., and Ahuja, G. (2002). Something old, something new: A longitudinal study of search behavior and new product introduction. *Academy of management journal, 45*(6), 1183-1194.

Keeble, D., and Wilkinson, F. (1999). Collective learning and knowledge development in the evolution of regional clusters of high technology SMEs in Europe. *Regional Studies, 33*(4), 295-303.

Kehoe, J. 1995. Basic Item Analysis for Multiple-Choice Tests. Practical Assessment, Research & Evaluation,4(10).

Keizer, J. A., Dijkstra, L., and Halman, J. I. (2002). Explaining innovative efforts of SMEs.: An exploratory survey among SMEs in the mechanical and electrical engineering sector in The Netherlands. *Technovation*, *22*(1), 1-13.

Keupp, M. M., Palmié, M., and Gassmann, O. (2012). The strategic management of innovation: A systematic review and paths for future research. *International Journal of Management Reviews, 14*(4), 367-390.

Kleinknecht, A. (1987). Measuring R & D in small firms: How much are we missing?. *The Journal of Industrial Economics*, 253-256.

Kogut, B., and Zander, U. (1992). Knowledge of the firm, combinative capabilities, and the replication of technology. *Organization Science*, *3*(3), 383-397.

Köhler, C., Sofka, W., and Grimpe, C. (2012). Selective search, sectoral patterns, and the impact on product innovation performance. *Research Policy, 41*(8), 1344-1356.

Kontinen, T., and Ojala, A. (2011). Network ties in the international opportunity recognition of family SMEs. *International Business Review*, *20*(4), 440-453.

Kothari C (2004). *Research Methodology; Methods and Technique Dharmesh* Printers: New Delhi, India.

Krzywinski, M. and Altman, N. (2013). Points of significance: Significance, P values and t-tests. *Nature Methods. Nature Publishing Group. 10* (11): 1041–1042.

Kühne, B., Vanhonacker, F., Gellynck, X., and Verbeke, W. (2010). Innovation in traditional food products in Europe: Do sector innovation activities match consumers' acceptance?. *Food Quality and Preference, 21*(6), 629-638.

Kumi-Ampofo, F., and Brooks, C. M. (2009). Innovation among SMEs: evidence from the Yorkshire and Humber region. *International Journal of Entrepreneurship and Small Business, 8*(4), 516-533.

Kurin, R. (2004), Safeguarding intangible cultural heritage in the 2003 UNESCO Convention: a critical appraisal, *Museum International*, *56*, 1–2, 66–76.

Kusunoki, K. (1997). Incapability of technological capability: a case study on product innovation in the Japanese facsimile machine industry. *Journal of Product Innovation Management*, *14*(5), 368-382.

Larreina, M., and Aguado, R. (2008). Beyond the cluster: how wine drives regional economy to success: "Oenopolis", the case of Rioja. *International Journal of Wine Business Research*, *20*(2), 153-170.

Le Bars, A., Mangematin, V., and Nesta, L. (1998, June). Innovation in SME's: the missing link. In *High-Technology Small Firms Conference* (Vol. 1, pp. 307-324).

Lee Rodgers, J., and Nicewander, W. A. (1988). Thirteen ways to look at the correlation coefficient. *The American Statistician*, *42*(1), 59-66.

Lee, C. and Ging L. C. (2007). SME Innovation in the Malaysian Manufacturing

Leenders, M. A., and Chandra, Y. (2013). Antecedents and consequences of green innovation in the wine industry: the role of channel structure. *Technology Analysis & Strategic Management*, *25*(2), 203-218.

Lenzi, C. (2013). Smart upgrading innovation strategies in a traditional industry: Evidence from the wine production in the province of Arezzo. *Regional Science Policy & Practice, 5*(4), 435-452.

Leonard-Barton, D. (1992). Core capabilities and core rigidities: A paradox in managing new product development. *Strategic Management Journal*, *13*(S1), 111-125.

Leroy, F., Geyzen, A., Janssens, M., De Vuyst, L., and Scholliers, P. (2013). Meat fermentation at the crossroads of innovation and tradition: a historical outlook. *Trends in Food Science & Technology*, *31*(2), 130-137.

Lockshin, L., and Corsi, A. M. (2012). Consumer behaviour for wine 2.0: A review since 2003 and future directions. *Wine Economics and Policy, 1*(1), 2-23.

Lorentzen, A. (2008). Knowledge networks in local and global space. *Entrepreneurship and Regional Development*, *20*(6), 533-545.

Lorentzen, A. (2009). Cities in the experience economy. *European Planning Studies, 17*(6), 829-845.

Loubere, L.A. (1990). *The Wine Revolution in France*. Princeton, New Jersey: Princeton University Press.

Loulanski, T. (2006). Revising the concept for cultural heritage: the argument for a functional approach. *International journal of cultural property*, *13*(2), 207-233.

Love, J. H., and Roper, S. (1999). The determinants of innovation: R & D, technology transfer and networking effects. *Review of Industrial Organization*, *15*(1), 43-64.

Lundvall, B.A. (1992). *National Systems of Innovation: An Analytical Framework*. London: Pinter.

Mackey, A., and Gass, S. M. (2015). *Second language research: Methodology and design*. Routledge.

Malerba, F. (1992). Learning by firms and incremental technical change. *The Economic Journal*, *102*(413), 845-859.

Malerba, F. (2002). Sectoral systems of innovation and production. *Research policy*, *31*(2), 247-264.

Malerba, F. (2004). *Sectoral systems of innovation: concepts, issues and analyses of six major sectors in Europe*. Cambridge University Press.

Malerba, F., and Orsenigo, L. (1995). Schumpeterian patterns of innovation. *Cambridge Journal of Economics*, *19*(1), 47-65.

Mancino, A., and Lo Presti, O. (2012). Wine tourism: a business opportunity for winemakers. *International Journal of Business and Globalisation, 8*(1), 153-169.

Marcati, A., Guido, G., and Peluso, A. M. (2008). The role of SME entrepreneurs' innovativeness and personality in the adoption of innovations. *Research Policy*, *37*(9), 1579-1590.

Mariani, A., Pomarici, E., and Boatto, V. (2012). The international wine trade: Recent trends and critical issues. *Wine Economics and Policy*, *1*(1), 24-40.

Markusen, A. (2003). Fuzzy concepts, scanty evidence, policy distance: the case for rigour and policy relevance in critical regional studies. *Regional Studies*, *37*(6-7), 701-717.

Marques, J. P. (2014). Closed versus open innovation: evolution or combination?. *International Journal of Business and Management*, *9*(3), 196.

Marshall, R. S., and Harry, S. P. (2005). Introducing a new business course:"Global business and sustainability". *International Journal of Sustainability in Higher Education*, *6*(2), 179-196.

Martin, R., and Sunley, P. (2003). Deconstructing clusters: chaotic concept or policy panacea?. *Journal of economic geography*, *3*(1), 5-35.

Masson, J., Aurier, P., and d'hauteville, F. (2008). Effects of non-sensory cues on perceived quality: the case of low-alcohol wine. *International Journal of Wine Business Research*, *20*(3), 215-229.

McDermott, G. A. (2007). The politics of institutional renovation and economic upgrading: Recombining the vines that bind in Argentina. *Politics & Society*, *35*(1), 103-144.

McDonagh, P., and Commins, P. (1999). Food chains, small-scale food enterprises and rural development: Illustrations from Ireland. *International Planning Studies*, *4*(3), 349-371.

McDonough, S., (1997). *Research Methods for English Language Teachers*. London: Arnold.

McMullen, J. S., and Shepherd, D. A. (2006). Entrepreneurial action and the role of uncertainty in the theory of the entrepreneur. *Academy of Management Review*, *31*(1), 132-152.

Menrad, K. (2004). Innovations in the food industry in Germany. *Research Policy*, *33*(6), 845-878.

Messeni Petruzzelli, A., and Albino, V. (2012). *When tradition turns into innovation. How firms can create and appropriate value through tradition*. Oxford, UK: Woodhead Publishing Limited.

Messeni Petruzzelli, A., and Savino, T. (2016). Reinterpreting tradition to innovate: the case of Italian haute cuisine. *Industry and Innovation*, *22*(8), 677-702.Messeni Petruzzelli, A., and Savino, T. (2014). Search, recombination, and innovation: Lessons from haute cuisine. *Long Range Planning*, *47*(4), 224-238.

Migliaccio M, Matarazzo M, D'Ambra A. 2008. Entrepre- neurial process-driving cooperation. An analysis of the new wine producers in Sannio. *Sinergie Journal, 26* (75): 57–74.

Miller, K. W., and Mills, M. K. (2012). Probing brand luxury: A multiple lens approach. *Journal of Brand Management*, *20*(1), 41-51.

Mitchell, R., and Hall, C. M. (2006). Wine tourism research: the state of play. *Tourism Review International*, *9*(4), 307-332.

Mole, V. and Elliott, D. (1987). *Enterprising innovation: an alternative approach*. London: Frances Pinter.

Monecke, A., and Leisch, F. (2012). SemPLS: structural equation modeling using partial least squares. *Journal of Statistical Software, 48* (3), 1–32.

Mooney, C. Z., and Duval, R. D. (1993). *Bootstrapping: A nonparametric approach to statistical inference* (No. 94-95). Sage publications.

Moreno, M. D. V. F., García-Pardo, I. P., and de Pablo González, J. D. S. (2011). Factors of Competitiveness in the Wine Industry: an Analysis of Innovation Strategy. *World Academy of Science, Engineering and Technology, International Journal of Social, Behavioral, Educational, Economic, Business and Industrial Engineering*, *5*(6), 847-857.

Morrison, A. and Rabellotti, R. (2014). Gradual Catch Up and Enduring Leadership in the Global Wine Industry, AAWE Working Paper No. 148. Online version accessed 20 August 2017, http://www.wine-economics.org/aawe/wp-content/uploads/2014/02/AAWE_WP148.pdf.

Morrison, A., and Rabellotti, R. (2009). Knowledge and information networks in an Italian wine cluster. *European Planning Studies*, *17*(7), 983-1006.

Morrison, A., and Rabellotti, R. (2017). Gradual catch up and enduring leadership in the global wine industry. *Research Policy*, *46*(2), 417-430.

Moskowitz, H. R., Reisner, M., Itty, B., Katz, R., and Krieger, B. (2006). Steps towards a consumer-driven 'concept innovation machine'for food and drink. *Food Quality and Preference*, *17*(7), 536-551.

Moskowitz, H., and Hartmann, J. (2008). Consumer research: creating a solid base for innovative strategies. *Trends in Food Science & Technology*, *19*(11), 581-589.

Moulard, J., Babin, B. J., and Griffin, M. (2015). How aspects of a wine's place affect consumers' authenticity perceptions and purchase intentions: The role of

country of origin and technical terroir. *International Journal of Wine Business Research*, *27*(1), 61-78.

Mouret J., (1999), *Le vin des écrivains*, Paris: Mercure den France.

Mueller Loose, S., and Remaud, H. (2013). Impact of corporate social responsibility claims on consumer food choice: A cross-cultural comparison. *British Food Journal*, *115*(1), 142-166.

Murdoch, J. (2000). Networks—a new paradigm of rural development?. *Journal of Rural Studies*, *16*(4), 407-419.

Murray, W.E. (2005) *Geographies of Globalisation*. London: Routledge.

Mytelka, L. K., and Smith, K. (2002). Policy learning and innovation theory: an interactive and co-evolving process. *Research Policy*, *31*(8), 1467-1479.

Mytelka, L. K., and Goertzen, H. (2004). *Learning, innovation and cluster growth: A study of two inherited organizations in the Niagara Peninsula wine cluster* (No. 15). United Nations University-INTECH.

Nagelkerke, N. J. (1991). A note on a general definition of the coefficient of determination. *Biometrika*, *78*(3), 691-692.

Nelson, R.R. and Winter, S.G. (1982) The Schumpeterian tradeoff revisited, *American Economic Review, 72*:114-132.

Nerkar, A. (2003). Old is gold? The value of temporal exploration in the creation of new knowledge. *Management Science*, *49*(2), 211-229.

Nielsen, 2008;

O'Connor, G. C. (1998). Market learning and radical innovation: A cross case comparison of eight radical innovation projects. *Journal of Product Innovation Management*, *15*(2), 151-166.

O'Dwyer, M., Gilmore, A., and Carson, D. (2009). Innovative marketing in SMEs. *European Journal of Marketing*, *43*(1/2), 46-61.

OECD-EUROSTAT (1997) *The Measurement of Scientific and Technological Activities: Proposed Guidelines for Collecting and Interpreting Technological Data*. Oslo Manual, Paris: OECD.

OECD. (1991). *The nature of innovation and the evolution of the productive system. technology and productivity-the challenge for economic policy*. Paris: OECD, 1991, 303–14.

OECD. (2005). *Oslo manual: Guidelines for collecting and interpreting innovation data* (3rd ed.). Paris: OECD.

Oke, A., Burke, G., and Myers, A. (2007). Innovation types and performance in growing UK SMEs. *International Journal of Operations & Production Management*, *27*(7), 735-753.

Omta, O., and Folstar, P. (2005). Integration of innovation in the corporate strategy of agri-food companies. *Innovation in agri-food systems. Product quality and consumer acceptance*, 221-230.

Omta, S. W. F. O., Trienekens, J., and Beers, G. (2001). Chain and network science: A research framework. *Journal on Chain and Network Science*, *1*(1), 1-6.

Orlikowski, W. J. (2002). Knowing in practice: Enacting a collective capability in distributed organizing. *Organization science*, *13*(3), 249-273.

Orth, U.R., and Bourrain, A., (2005). Ambient scent and consumer exploratory behaviour: a causal analysis. *Journal of Wine Research, 16*, 137–150.

Paniccia I. (2002) *Industrial Districts: Evolution and Competitiveness in Italian Firms*. Edward Elgar, Cheltenham.

Patchell, J. (2008). Collectivity and differentiation: a tale of two wine territories. *Environment and Planning A*, *40*(10), 2364-2383.

Patel, P., and Pavitt, K. (1997). The technological competencies of the world's largest firms: complex and path-dependent, but not much variety. *Research Policy*, *26*(2), 141-156.

Paul, H. W. (1996) *Science, Vine and Wine in Modern France.* Cambridge: Cambridge University Press.

Pavitt, K. (1984). Sectoral patterns of technical change: towards a taxonomy and a theory. *Research Policy*, *13*(6), 343-373.

Payton, M. E., Greenstone, M. H., and Schenker, N. (2003). Overlapping confidence intervals or standard error intervals: what do they mean in terms of statistical significance?. *Journal of Insect Science*, *3*(1), 34.

Pearce, R. J. (1997). Toward understanding joint venture performance and survival: A bargaining and influence approach to transaction cost theory. *Academy of Management Review*, *22*(1), 203-225.

Peltoniemi, M. (2015). Cultural industries: Product–market characteristics, management challenges and industry dynamics. *International Journal of Management Reviews*, *17*(1), 41-68.

Perry-Smith, J. E., and Coff, R. W. (2011). In the mood for entrepreneurial creativity? How optimal group affect differs for generating and selecting ideas for new ventures. *Strategic Entrepreneurship Journal*, *5*(3), 247-268.

Peters, G. L. (1997). American winescapes: The cultural landscapes of America's wine country. *Geographies of the imagination (USA)*.

Pezzillo Iacono, M., De Nito, E., Esposito, V., Martinez, M., and Moschera, L. (2014). Investigating the relationship between coordination mechanisms and knowledge in a wine firm. *Knowledge and Process Management*, *21*(4), 280-291.

Pezzillo Iacono, M., Esposito, V., and Berni, A. (2013). Temporary project network and innovation: research on the Italian regional wine industry. *International Journal of Managing Projects in Business*, *6*(2), 274-292.

Pine, B. J., and Gilmore, J. H. (2000). Satisfaction, sacrifice, surprise: three small steps create one giant leap into the experience economy. *Strategy & Leadership*, *28*(1), 18-23.

Pittaway, L., Robertson, M., Munir, K., Denyer, D., and Neely, A. (2004). Networking and innovation: a systematic review of the evidence. *International Journal of Management Reviews*, *5*(3-4), 137-168.

Podsakoff, P. M., Mackenzie, S. B., Bachrach, D. G., and Podsakoff, N. P. (2005). The influence of management journals in the 1980s and 1990s. *Strategic Management Journal*, *26*(5), 473-488.

Poitras, L., and Getz, D. (2006). Sustainable wine tourism: The host community perspective. *Journal of Sustainable Tourism*, *14*(5), 425-448.

Pomarici, E., Boccia, F., and Catapano, D. (2012). The wine distribution systems over the world: An explorative survey. *New Medit*, *11*(4), 23-32.

Popadiuk, S., and Choo, C. W. (2006). Innovation and knowledge creation: How are these concepts related?. *International Journal of Information Management*, *26*(4), 302-312.

Porter, M. E. (1998). *Clusters and the new economics of competition*. Boston: Harvard Business Review.

Preece, C. (2015), The authentic celebrity brand: unpacking Ai Weiwei's celebritised selves, *Journal of Marketing Management*, *31*, 5/6, 616-645.

Presenza, A., Abbate, T., Meleddu, M., and Cesaroni, F. (2017). Small-and medium-scale Italian winemaking companies facing the open innovation challenge. *International Small Business Journal*, *35*(3), 327-348.

Propris, L. D. (2000). Innovation and inter-firm co-operation: The case of the West Midlands. *Economics of Innovation and New Technology*, *9*(5), 421-446.

Punj, G., and Stewart, D. W. (1983). Cluster analysis in marketing research: Review and suggestions for application. *Journal of marketing research*, 134-148.

Rama, R. (1996). Empirical study on sources of innovation in international food and beverage industry. *Agribusiness*, *12*(2), 123-134.

Rama, R., and Von Tunzelmann, N. (2008). Empirical studies of innovation in the food and beverage industry. *Handbook of Innovation in the Food and Drink Industry, Haworth Press, New York, NY*.

Rasch, L. (2008). *Online wine tourism marketing efforts of wineries and convention and visitors bureaus in Texas* (Doctoral dissertation).

Ravenscroft, N., and Van Westering, J. (2001). Wine tourism, culture and the everyday: A theoretical note. *Tourism and Hospitality Research*, *3*(2), 149-162.

Rebelo, J., and Caldas, J. (2013). The Douro wine region: a cluster approach. *Journal of Wine Research*, *24*(1), 19-37.

Regione Campania (2016). Guida delle aziende vitivinicole e vinicole della Campania. Online report accessed 16 July 2017 http://www.agricoltura.regione.campania.it/pubblicazioni/ pdf/guida_vini_2016.pdf.

Remaud, H., and Couderc, J. P. (2006). Wine business practices: a new versus old wine world perspective. *Agribusiness*, *22*(3), 405-416.

Reyneke, M., Pitt, L., and Berthon, P.R. (2011), Luxury wine visibility in social media: an exploratory study, *International Journal of Wine Business Research*, *23*, 1, 21-35.

Riviezzo, A., Garofano, A., Granata, J., and Kakavand, S. (2017). Using terroir to exploit local identity and cultural heritage in marketing strategies: An exploratory study among Italian and French wine producers. *Place Branding and Public Diplomacy*, *13*(2), 136-149.

Robertson, P. L., and Langlois, R. N. (1995). Innovation, networks, and vertical integration. *Research Policy*, *24*(4), 543-562.

Robertson, T. S. (1967). The process of innovation and the diffusion of innovation. *The Journal of Marketing*, 14-19.

Rodgers, S. (2008). Technological innovation supporting different food production philosophies in the food service sectors. *International Journal of Contemporary Hospitality Management*, *20*(1), 19-34.

Romijn, H., and Albaladejo, M. (2002). Determinants of innovation capability in small electronics and software firms in southeast England. *Research Policy*, *31*(7), 1053-1067.

Rosenberg, N. (1982). *Inside the black box: technology and economics*. Cambridge University Press.

Rosenbusch, N., Brinckmann, J., and Bausch, A. (2011). Is innovation always beneficial? A meta-analysis of the relationship between innovation and performance in SMEs. *Journal of Business Venturing*, *26*(4), 441-457.

Rosenfeld, S. A. (1997). Bringing business clusters into the mainstream of economic development. *European Planning Studies*, *5*(1), 3-23.

Rossi, M., Vrontis, D., and Thrassou, A. (2012). Wine business in a changing competitive environment–strategic and financial choices of Campania wine firms. *International Journal of Business and Globalisation*, *8*(1), 112-130.

Rothwell, R. (1992). Successful industrial innovation: critical factors for the 1990s. *R&d Management*, *22*(3), 221-240.

Rowley, J. (2012). Conducting research interviews. *Management Research Review*, *35*(3/4), 260-271.

Rubio, D. M., Berg-Weger, M., Tebb, S. S., Lee, E. S., and Rauch, S. (2003). Objectifying content validity: Conducting a content validity study in social work research. Social work research, 27(2), 94-104.

Sammarra, A., and Biggiero, L. (2008). Heterogeneity and specificity of Inter-Firm knowledge flows in innovation networks. *Journal of Management Studies*, *45*(4), 800-829.

Samson, D. A., and Sohal, A. (1990). The strategic status of quality: an Australian perspective. *International Journal of Technology Management*, *5*(3), 293-307.

Santini, C. and Cavicchi, A. (2011). Brunellopoli: a wine scandal under the tuscan sun. *Tourism Review International*, *15*(3), 253-267.

Schiele, H. (2006). How to distinguish innovative suppliers? Identifying innovative suppliers as new task for purchasing. *Industrial Marketing Management*, *35*(8), 925-935.

Schmitt, M. (1996). Uses and abuse of coefficient alpha. *Psychol Assessment*, 8:350-353.

Schumpeter, J. (1939) *Business Cycles: A Theoretical, Historical, and Statistical Analysis of the Capitalist Process* (2vol), New York: McGraw-Hill.

Schumpeter, J. A. (1934). The theory of economic development. Cambridge, Mass.: Harvard University Press,

Scott, A. J. (2004). Cultural-products industries and urban economic development: prospects for growth and market contestation in global context. *Urban affairs review*, *39*(4), 461-490.

Scruton, R. (2007). In Search of the aesthetic. *The British Journal of Aesthetics*, *47*(3), 232-250.

Sector. *Economics Bulletin*, *12*:1-12.

Sheridan, L., Duarte Alonso, A., and Scherrer, P. (2009). Wine tourism as a development initiative in rural Canary Island communities. *Journal of Enterprising Communities: People and Places in the Global Economy*, *3*(3), 291-305.

Shukla, P., and Purani, K. (2012). Comparing the importance of luxury value perceptions in cross-national contexts. *Journal of Business Research*, *65*(10), 1417-1424.

Sims, R. (2009). Food, place and authenticity: local food and the sustainable tourism experience. *Journal of sustainable tourism*, *17*(3), 321-336.

Smith, A. D. (2007). The strategic role of knowledge and innovation systems thinking. *International Journal of Business and Systems Research*, *1*(2), 200-215.

Smith, B. L., Barfield, C. E., and Dufour, P. (1996). *Technology, R & D, and the Economy* (No. 338.064 S5.). Brookings institution.

Solomon, D. J. (2001). Conducting web-based surveys. *Practical assessment research and evaluation*, *7*(19).

Song, X. M., and Montoya-Weiss, M. M. (1998). Critical development activities for really new versus incremental products. *Journal of Product Innovation Management*, *15*(2), 124-135.

Spawton, T. (1990). Marketing planning for wine. *International Journal of Wine Marketing*, *2*(2), 2-49.

Spielmann, N., and Charters, S. (2013). The dimensions of authenticity in terroir products. *International Journal of Wine Business Research, 25*(4), 310-324.

Spielmann, N., and Gélinas-Chebat, C. (2012). Terroir? That's not how I would describe it. *International Journal of Wine Business Research*, *24*(4), 254-270.

SRM Report, (2016). Online report accessed 4 June 2017. https://gain.fas.usda.gov/Recent%20GAIN%20Publications/Background%20on%20the%20Italian%20Wine%20Sector_Rome_Italy_4-26-2016.pdf.

Stanton, J. L., Wiley, J. B., and Wirth, F. F. (2012). Who are the locavores?. *Journal of Consumer Marketing*, *29*(4), 248-261.

Stiehler, B. E., Stiehler, B. E., Caruana, A., Caruana, A., Vella, J., and Vella, J. (2016). Using an aesthetics and ontology framework to investigate consumers' attitudes toward luxury wine brands as a product category: Evidence from two countries. *International Journal of Wine Business Research*, *28*(2), 154-169.

Storper, M., and Venables, A. J. (2004). Buzz: face-to-face contact and the urban economy. *Journal of economic geography*, *4*(4), 351-370.

Stræte, P. E. (2008). Modes of qualities in development of speciality food. *British Food Journal, 110*(1), 62-75.

Sutanonpaiboon, J., and Atkin, T. (2012). Using region to market wine to international consumers. *Journal of food products marketing*, *18*(1), 1-18.

Svensson, G. (2001). "Glocalization" of business activities: a "glocal strategy" approach. *Management decision*, *39*(1), 6-18.

Takey, S.M. and Carvalho, M.M.(2016). Fuzzy front end of systemic innovations: A conceptual framework based on a systematic literature review. *Technological Forecasting and Social Change, 111*, 97-109.

Taplin, I. M. (2011). Network structure and knowledge transfer in cluster evolution: The transformation of the Napa Valley wine region. *International Journal of Organizational Analysis*, *19*(2), 127-145.

Tatikonda, M. V., and Stock, G. N. (2003). Product technology transfer in the upstream supply chain. *Journal of product innovation management*, *20*(6), 444-467.

Teece, D. J. (1996). Firm organization, industrial structure, and technological innovation. *Journal of economic behavior & organization*, *31*(2), 193-224.

Teece, D.J., Pisano, G. and Shuen, A. (1997) Dynamic capabilities and strategic management. *Strategic Management Journal,* 18(7), 509–533.

Teirlinck, P., and Spithoven, A. (2008). The spatial organization of innovation: Open innovation, external knowledge relations and urban structure. *Regional Studies*, *42*(5), 689-704.

Tenenhaus, M., Vinzi, V. E., Chatelin, Y. M., and Lauro, C. (2005). PLS path modeling. *Computational statistics & data analysis*, *48*(1), 159-205.

Terziovski, M. (2010). Innovation practice and its performance implications in small and medium enterprises (SMEs) in the manufacturing sector: a resource-based view. *Strategic Management Journal*, *31*(8), 892-902.

Tether, B. S. (2002). Who co-operates for innovation, and why: an empirical analysis. *Research Policy*, *31*(6), 947-967.

Tether, B. S., and Tajar, A. (2008). Beyond industry–university links: Sourcing knowledge for innovation from consultants, private research organisations and the public science-base. *Research Policy*, *37*(6), 1079-1095.

Theyel, N. (2013). Extending open innovation throughout the value chain by small and medium-sized manufacturers. *International Small Business Journal*, *31*(3), 256-274.

Thomond, P., and Lettice, F. (2002, July). Disruptive innovation explored. In *Cranfield University, Cranfield, England. Presented at: 9th IPSE International Conference on Concurrent Engineering: Research and Applications (CE2002)*.

Thompson, V. A. (1965). Bureaucracy and innovation. *Administrative Science Quarterly*, 1-20.

Thrassou, A., and Vrontis, D. (2006). A small services firm marketing communications model for SME-dominated environments. *Journal of Marketing Communications*, *12*(3), 183-202.

Thrassou, A., and Vrontis, D. (2009). A new consumer relationship model: the marketing communications application. *Journal of Promotion Management*, *15*(4), 499-521.

Thrassou, A., and Vrontis, D. (2010). The dawn of a new business–consumer relationship. *International Consumer Behavior: A Mosaic of Eclectic Perspectives–Handbook on International Consumer Behavior, Access Press, Carnarvon, WA*.

Tidd, J. (2001). Innovation management in context: environment, organization and performance. *International Journal of Management Reviews*, *3*(3), 169-183.

Todorova, G., and Durisin, B. (2007). Absorptive capacity: Valuing a reconceptualization. *Academy of Management Review*, *32*(3), 774-786.

Torre, A., and Rallet, A. (2005). Proximity and localization. *Regional studies*, *39*(1), 47-59.

Touzard, J. M. (2010, June). Innovation systems and the competition between regional vineyards. In *ISDA 2010* (pp. 13-p). Cirad-Inra-SupAgro.

Traill, W. B., and Meulenberg, M. (2002). Innovation in the food industry. *Agribusiness*, *18*(1), 1-21.

Trichopoulou, A., Soukara, S., and Vasilopoulou, E. (2007). Traditional foods: a science and society perspective. *Trends in Food Science & Technology*, *18*(8), 420-427.

Trichopoulou, A., Vasilopoulou, E., Georga, K., Soukara, S., and Dilis, V. (2006). Traditional foods: Why and how to sustain them. *Trends in Food Science & Technology*, *17*(9), 498-504.

Tzeng, C. H. (2009). A review of contemporary innovation literature: A Schumpeterian perspective. *Innovation*, *11*(3), 373-394.

Ueacharoenkit, S. and Cohen, G. (2011). Investigating the relationship of bran experience and loyalty: A study of luxury brand in Thailand. *European, Mediterranean & Middle Eastern Conference n Information Systems* (EMCIS2011) May 30-31 2011, Athens, Greece.

Utterback, J. M., and Abernathy, W. J. (1975). A dynamic model of process and product innovation. *Omega*, *3*(6), 639-656.

Van de Ven, A. H. (1986). Central problems in the management of innovation. *Management science*, *32*(5), 590-607.

Van de Ven, A. H. (1999). The Innovation Journey, Oxford University Press.

Van de Vrande V, De Jong JPJ, Vanhaverbeke W, et al. (2009) Open innovation in SMEs: Trends, motives and management challenges. *Technovation* 29(6–7): 423–437.

Van Hemert, P., and Nijkamp, P. (2011). Critical Success Factors for a Knowledge-Based Economy: An Empirical Study into Background Factors of Economic Dynamism. In *Innovation, Growth and Competitiveness* (pp. 61-89). Springer Berlin Heidelberg.

Vanhaverbeke, W., Vermeersch, I., and De Zutter, S. (2012). *Open innovation in SMEs: How can small companies and start-ups benefit from open innovation strategies?* Vlerick Leuven Gent Management School. Available at https://doclib.uhasselt.be/dspace/handle/1942/13758 .

Varadarajan, P. R., and Cunningham, M. H. (1995). Strategic alliances: a synthesis of conceptual foundations. *Journal of the academy of marketing science*, *23*(4), 282.

Varis, M., and Littunen, H. (2010). Types of innovation, sources of information and performance in entrepreneurial SMEs. *European Journal of Innovation Management*, *13*(2), 128-154.

Vaudour, E. (2002). The quality of grapes and wine in relation to geography: Notions of terroir at various scales. *Journal of Wine Research*, *13*(2), 117-141.

Verhees, F. J., and Meulenberg, M. T. (2004). Market orientation, innovativeness, product innovation, and performance in small firms. *Journal of small business management*, *42*(2), 134-154.

Verona, G., and Ravasi, D. (2003). Unbundling dynamic capabilities: an exploratory study of continuous product innovation. *Industrial and Corporate Change*, *12*(3), 577-606.

Veugelers, R., and Cassiman, B. (2005). R&D cooperation between firms and universities. Some empirical evidence from Belgian manufacturing. *International Journal of Industrial Organization*, *23*(5), 355-379.

Vinitaly, 2017. Online report accessed 13 May 2017, http://www.regione.campania.it/assets/documents/vinitaly-presentazione-stampa.pdf.

Visser, E. J., and de Langen, P. (2006). The importance and quality of governance in the Chilean wine industry. *GeoJournal*, *65*(3), 177-197.

Vrontis, D., and Papasolomou, I. (2007). Brand and product building: the case of the Cyprus wine industry. *Journal of Product & Brand Management*, *16*(3), 159-167.

Vrontis, D., Bresciani, S., and Giacosa, E. (2016). Tradition and innovation in Italian wine family businesses. *British Food Journal*, *118*(8), 1883-1897.

Vrontis, D., Thrassou, A., and Lamprianou, I. (2009). International marketing adaptation versus standardisation of multinational companies. *International Marketing Review*, *26*(4/5), 477-500.

Vrontis, D., Thrassou, A., and Rossi, M. (2011). Italian wine firms: strategic branding and financial performance. *International Journal of Organizational Analysis*, *19*(4), 288-304.

Vrontis, D., Thrassou, A., and Rossi, M. (2011). Italian wine firms: strategic branding and financial performance. *International Journal of Organizational Analysis*, *19*(4), 288-304.

Vrontis, D., Thrassou, A., and Vignali, C. (2006). The country-of-origin effect on the purchase intention of apparel: opportunities and threats for small firms. *International Journal of Entrepreneurship and Small Business*, *3*(3-4), 459-476.

Walker, R. M., Damanpour, F., and Devece, C. A. (2010). Management innovation and organizational performance: The mediating effect of performance management. *Journal of Public Administration Research and Theory*, *21*(2), 367-386.

Wang, C. L., and Chugh, H. (2014). Entrepreneurial learning: past research and future challenges. *International Journal of Management Reviews*, *16*(1), 24-61.

Ward, T. B. (2004). Cognition, creativity, and entrepreneurship. *Journal of business venturing*, *19*(2), 173-188.

Wargenau, A., and Che, D. (2006). Wine tourism development and marketing strategies in Southwest Michigan. *International Journal of Wine Marketing*, *18*(1), 45-60.

Wei, Y. S., and Wang, Q. (2011). Making sense of a market information system for superior performance: The roles of organizational responsiveness and innovation strategy. *Industrial Marketing Management*, *40*(2), 267-277.

Whyte, J., Bessant, J. and Neely, A. (2005) *Management of creativity and design within the firm*. DTI Think Piece, United Kingdom.

Williams, P. W., and Kelly, J. (2001). Cultural wine tourists: Product development considerations for British Columbia's resident wine tourism market. *International Journal of Wine Marketing*, *13*(3), 59-76.

Wilson, J. E. (1998). *Terroir: The role of geology, climate and culture in the making of French wines*. University of California Press.

Wolf, H. L., Wolf, H. L., Morrish, S. C., Morrish, S. C., Fountain, J., and Fountain, J. (2016). A conceptualization of the perceptions and motivators that drive luxury wine consumption. *International Journal of Wine Business Research*, *28*(2), 120-133.

Wolfe, D. A. (2005). "The role of universities in regional development, cluster formation". In G. A. Jones, P. L. McCarney, and M. L. Skolnik (Eds.), *Creating knowledge, strengthening nations: The changing role of higher education* (pp. 167-194). Toronto: University of Toronto Press.

Wolfe, R. A. (1994). Organizational innovation: Review, critique and suggested research directions. *Journal of management studies*, *31*(3), 405-431.

Wong, A., Tjosvold, D., and Liu, C. (2009). Innovation by teams in Shanghai, China: cooperative goals for group confidence and persistence. *British Journal of Management*, *20*(2), 238-251.

Wylant, B. (2008). Design thinking and the experience of innovation. *Design Issues*, *24*(2), 3-14.

Yin, R. K. (1984) *Case study research*. Beverly Hills, CA: Sage Publications.

Yin, R. K. (2009). Case Study Research: Design and Methods, Essential guide to qualitative methods in organizational research. *Applied Social Research Methods Series*, *219*.

Yin, R.K., (1994). *Case Study Research, Design and Methods*. Sage, Thousand Oaks, CA.

Yu, D., and Hang, C. C. (2010). A reflective review of disruptive innovation theory. *International Journal of Management Reviews*, *12*(4), 435-452.

Zahra, S. A., and George, G. (2002). Absorptive capacity: A review, reconceptualization, and extension. *Academy of Management Review*, *27*(2), 185-203.

Zepeda, L., and Leviten-Reid, C. (2004). Consumers' views on local food. *Journal of Food Distribution Research*, *35*(3), 1-6.

APPENDIXES

Appendix A - Items and Cronbach's α of innovation dimension

INNOVATION DIMENSIONS					
Types of innovation					
Items	Frequency distribution (*n*=177)				
	No	Yes, marginal	Yes, good	Yes, noteworthy	Cronbach's α
PROINNOV1	44.1	12.4	23.2	20.3	0.570
PROINNOV2	84.2	7.3	7.3	1.1	0.547
PROINNOV3	48.6	19.8	21.5	10.2	0.549
PROINNOV4	83.6	6.2	5.6	4.5	0.580
PROINNOV5	23.2	18.6	31.6	26.6	0.511
PROINNOV6	50.8	17.5	22.6	9.0	0.511
PROINNOV7	17.5	19.2	40.7	22.6	0.476
PROINNOV8	84.7	5.1	7.3	2.8	0.575
Alpha Cronbach scale = 0.575					

Innovation activities					
Items	Frequency distribution (*n*=177)				
	No	Yes, marginal	Yes, good	Yes, noteworthy	Cronbach's α
MKTGINNOV1	20,9	29.9	29.4	19.8	0.860
MKTGINNOV2	49.7	22.0	19.2	9.0	0.854
MKTGINNOV3	15.8	22.6	28.8	32.8	0.855
MKTGINNOV4	31.1	14.7	22.0	32.2	0.842
MKTGINNOV5	4.0	22.6	39.0	34.5	0.859
MKTGINNOV6	34.5	29.4	26.0	10.2	0.857
MKTGINNOV7	53.7	16.9	18.1	11.3	0.857
MKTGINNOV8	37.3	16.4	18.1	28.2	0.844
Alpha Cronbach scale = 0.870					

External knowledge sources					
Items	Frequency distribution (*n*=177)				
	No	Yes, marginal	Yes, good	Yes, noteworthy	Cronbach's α
EXTINNOV1	36.2	23.2	26.0	14.7	0.614
EXTINNOV2	25.4	24.9	31.1	18.6	0.550
EXTINNOV3	53.1	11.9	17.5	17.5	0.584
EXTINNOV4	36.2	29.9	24.3	9.6	0.554
Alpha Cronbach scale = 0.644					

Systemic innovation					
Items	Frequency distribution (*n*=177)				
	No	Yes, marginal	Yes, good	Yes, noteworthy	Cronbach's α

SYINNOV1	37.9	29.4	25.4	7.3	0.596
SYINNOV2	29.4	12.4	44.1	14.1	0.695
SYINNOV3	58.2	22.0	18.1	1.7	0.695
SYINNOV4	37.3	29.4	25.4	7.9	0.575
Alpha Cronbach scale = 0.697					

Appendix B - High innovation cluster: the wine firms profile

Wine firms	Registered office	Year of foundation	Firm's typology / ownership structure	Number of produced bottles (2016)	National/ International Awards
Mastroberardino	Atripalda (AV)	1878	Family-owned	2.000.000	Yes
la Guardiense	Guardia Sanframondi (BN)	1960	Cooperative	3.500.000	Yes
FEUDI DI SAN GREGORIO	Sorbo Serpico (AV)	1986	Family-owned	3.500.000	Yes
Tenuta Cavalier Pepe	Sant'Angelo all'Esca (AV)	1998	Family-owned	300.000	Yes
Furore – Marisa Cuomo	Furore (SA)	1983	Family-owned	110.000	Yes
Filadoro	Lapio (AV)	2008	Family-owned	40.000	Yes
Villa Matilde	Cellole (CE)	1960	Family-owned	700.000	Yes
Cantina del Vesuvio Trecase	Trecase (NA)	1951	Family-owned	60.000	Yes
Donnachiara Montefalcione	Montefalcone (AV)	2005	Family-owned	200.000	Yes
Fonzone Paternopoli	Partenopoli (AV)	2005	Family-owned	55.000	Yes

VINOSÌA LUCIANO ERCOLINO	Partenopoli (AV)	1887	Family-owned	N.A.	Yes
MASSERIA FRATTASI	Montesarchio (BN)	1779	Family-owned	N.A.	Yes
MUSTILLI	Sant'Agata dei Goti (BN)	1970	Family-owned	150.000	Yes
CANTINA morone	Guardia Sanframondi (BN)	1928	Family-owned	N.A.	Yes
VESEVO GRANDI VINI CAMPANI	Celsi di Forino (AV)	2000	Farnese Group (SpA)	N.A.	Yes
CAPUTALBUS	Ponte (BN)	2004	Family-owned	N.A.	Yes
CASTELLE VITICULTORI IN CASTELVENERE	Castelvenere (BN)	1991	Family-owned	N.A.	Yes
Sorrentino	Trecase (NA)	1990	Family-owned	230.000	Yes
CANTINA DI LISANDRO	Caiazzo (CE)	1907	Family-owned	55.000	Yes